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(71)出願人　ストラテジック・サイエンス・アンド・テクノロジーズ・インコーポレイテッド
アメリカ合衆国、02159　マサチューセッツ州、ニュートン、ピィ・オゥ・ボックス・392（番地なし）
(72)発明者　フォッセル，エリック
アメリカ合衆国、05486　バーモント州、サウス・ヘロ、サンセット・ビュウ・ロード、17
(74)代理人　弁理士　深見　久郎　（外５名）

最終頁に続く

(54)【発明の名称】　有益な効果を奏するアルギニンの投薬

(57)【要約】
Ｌ－アルギニン３１などの酸化窒素放出物質を局所適用法または経口投与法のいずれかによって、ヒトまたは哺乳類の組織に投薬し、鎮痛、低温組織の加温、頭皮での育毛、下肢壊痕の治癒、インポテンスの軽減などの有益な効果、ならびに他の有益な効果を生み出すための投薬賦形物および方法である。投薬賦形物は、酸化窒素放出物質への移動を容易にし、かつ促進する、敵対的な生物物理学的環境を提供する。

【特許請求の範囲】

【請求項１】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループから選択された酸化窒素放出物質を、皮膚の選択された領域に投薬するための方法であって、有効な量の前記物質を含む物質投薬賦形剤を前記皮膚に局所的に塗布するステップを備え、前記賦形剤は、前記物質が前記賦形剤から前記皮膚に移動し、前記皮膚で前記物質が吸収されるようにする、前記物質のための敵対的な生物物理学的環境を生み出す、方法。

【請求項２】　前記物質およびイオン塩を含有する、局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択された賦形剤が、前記皮膚に塗布される、請求項１に記載の方法。

【請求項３】　前記賦形剤が、前記物質および少なくとも１つのリポソームを含有する疎水性投薬賦形剤である、請求項１に記載の方法。

【請求項４】　前記物質および前記少なくとも１つのリポソームを含有する賦形剤が、前記少なくとも１つのリポソームが前記賦形剤から前記皮膚に移動するように前記皮膚に塗布される、請求項３に記載の方法。

【請求項５】　前記賦形剤が約３ｐＨから１１ｐＨのｐＨを有する、請求項１に記載の方法。

【請求項６】　投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１

％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む、請求項１に記載の方法。

【請求項７】　前記投薬賦形剤がコリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含有する、請求項６に記載の方法。

【請求項８】　前記投薬賦形剤がＬ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含む、請求項６に記載の方法。

【請求項９】　男性のインポテンスの治療方法であって、Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループから選択された窒素塩化物放出物質を、有効な量だけ前記物質を含有する投薬賦形剤を陰茎に局所的に塗布することによって投薬するステップを含み、前記賦形剤は、前記物質が前記賦形剤から前記陰茎に移動して前記物質が吸収されるようにする、敵対的な生物物理的環境を生み出す、方法。

【請求項１０】　前記賦形剤が、前記物質を含有する局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択される、請求項９に記載の方法。

【請求項１１】　前記投薬賦形剤が、前記物質および少なくとも１つのリポソームを含有する疎水性投薬賦形剤である、請求項９に記載の方法。

【請求項１２】　前記物質およびリポソームを含有する賦形剤が、前記少なくとも１つのリポソームが前記賦形剤から前記陰茎に移動するように、前記陰茎に塗布される、請求項１１に記載の方法。

【請求項１３】　前記投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステ

アラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む、請求項９に記載の方法。

【請求項１４】　前記投薬賦形剤がコリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含む、請求項１３に記載の方法。

【請求項１５】　前記投薬賦形剤がＬ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含有する、請求項１３に記載の方法。

【請求項１６】　前記投薬賦形剤が、前記陰茎に着用されるコンドームに含有される、請求項９に記載の方法。

【請求項１７】　育毛促進方法であって、Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループから選択された酸化窒素放出物質を、有効な量だけ前記物質を含有する投薬賦形剤を、育毛が望まれる皮膚の選択された領域に局所的に塗布することにより投薬するステップを含み、前記投薬賦形剤により、前記物質が前記賦形剤から前記皮膚の選択された領域に移動し、そこで前記物質が吸収されるようにする、敵対的な生物物理学的環境を生み出す、方法。

【請求項１８】　前記賦形剤が、前記物質を含有する局所適用クリーム、局

所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択される、請求項１７に記載の方法。

【請求項１９】　前記投薬賦形剤が、前記物質および少なくとも１つのリポソームを含有する疎水性投薬賦形剤である、請求項１７に記載の方法。

【請求項２０】　前記物質および前記少なくとも１つのリポソームを含有する賦形剤が、前記リポソームが前記賦形剤から育毛が望まれる前記皮膚に移動するように、前記皮膚の選択された領域に塗布される、請求項１９に記載の方法。

【請求項２１】　前記投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む、請求項１７に記載の方法。

【請求項２２】　コリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含む前記投薬賦形剤が、育毛が望まれる皮膚の選択された領域に塗布される、請求項２１に記載の方法。

【請求項２３】　Ｌ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）をさらに含む前記投薬賦形剤が、育毛が望まれる皮膚の選択された領域に塗布される、請求項２１に記載の方法。

【請求項２４】　前記物質がパッチから皮膚の選択された領域に移動するように、イオン強度環境を生み出すのに十分な濃度で前記物質およびイオン塩を含有する経皮パッチが、育毛が望まれる場所に塗布される、請求項１７に記載の方法。

【請求項２５】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することにより育毛を促進するための方法であって、有効な量の前記物質と、前記物質が周囲の組織によって吸収されるようにするイオン環境を生み出すために十分な濃度の塩化ナトリウムとを含有する賦形剤を体に経口投与するステップを含む、方法。

【請求項２６】　前記賦形剤が、前記物質を含有する経口投与カプセル、経口投与錠剤および経口投与液体からなるグループから選択されて、前記体に経口投与される、請求項２５に記載の方法。

【請求項２７】　前記物質を含有する経口投与投薬賦形剤が、前記物質と、前記物質が前記局所適用投薬賦形剤から育毛が望まれる皮膚の選択された領域に移動するようにするイオン強度環境を生み出すために十分な濃度のイオン塩とを含有する投薬賦形剤を局所適用するステップに関連して経口投与される、請求項２５に記載の方法。

【請求項２８】　Ｌ－アルギニン（１日に付き０．５ｇから３０ｇ）を含む経口投与投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％

ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む局所適用投薬賦形剤に関連して経口投与される、請求項２７に記載の方法。

【請求項２９】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することにより局所的な血流を増加させるための方法であって、有効な量の前記物質と、前記物質が周囲の組織によって吸収されるようにするイオン環境を生み出すために十分な濃度の塩化ナトリウムとを含有する賦形剤を体に経口投与するステップを含む、方法。

【請求項３０】　前記経口投与投薬賦形剤が、体に経口投与される、前記物質を含有する経口投与カプセル、経口投与錠剤および経口投与液体からなるグループから選択される、請求項２９に記載の方法。

【請求項３１】　１日に付き０．５ｇから３０ｇの範囲でＬ－アルギニンを含む経口投与投薬賦形剤が経口投与される、請求項２９に記載の方法。

【請求項３２】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することによって局所的な血流を増加させるための方法であって、有効な量の前記物質と、前記物質が前記賦形剤から前記物質が吸収される皮膚の選択された領域に移動するようにする環境を生み出すために十分な濃度のイオン塩とを含有する投薬賦形剤を局所的に適用するステップに関連して、有効な量の前記物質と、前

記物質が周囲の組織によって吸収されるようにするイオン環境を生み出すのに十分な濃度の塩化ナトリウムとを含有する賦形剤を体に経口投与するステップを含む、方法。

【請求項３３】　前記局所適用投薬賦形剤が、局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択される、請求項３２に記載の方法。

【請求項３４】　前記物質と、前記イオン塩を含有する局所適用疎水性投薬賦形剤が、前記皮膚に塗布される、請求項３２に記載の方法。

【請求項３５】　前記物質およびリポソーム内にイオン強度環境を生み出すのに十分な濃度のイオン塩とを含有する局所適用投薬賦形剤が、前記リポソームが前記賦形剤から前記皮膚に移動し、そこで吸収されるように、前記皮膚に塗布される、請求項３２に記載の方法。

【請求項３６】　前記物質と前記イオン塩とを含有する経皮パッチが前記皮膚に塗布される、請求項３２に記載の方法。

【請求項３７】　Ｌ－アルギニン（１日に付き０．５ｇから３０ｇ）を含む経口投与投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素

（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む局所適用投薬賦形剤に関連して経口投与される、請求項３２に記載の方法。

【請求項３８】　コリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）をさらに含む局所適用投薬賦形剤が前記皮膚に塗布される、請求項３７に記載の方法。

【請求項３９】　Ｌ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）含有する局所適用投薬賦形剤が、前記皮膚に塗布される、請求項３７に記載の方法。

【請求項４０】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することによって冷えたまたは低温の組織を加温するための方法であって、有効な量の前記物質と、前記物質が周囲の組織によって吸収されるようにするイオン環境を生み出すのに十分な濃度の塩化ナトリウムとを含有する賦形剤を経口投与するステップを含む、方法。

【請求項４１】　前記経口投与投薬賦形剤が、体に経口投与される前記物質を含有する、経口投与カプセル、経口投与錠剤および経口投与液体からなるグループから選択される、請求項４０に記載の方法。

【請求項４２】　前記物質を含有する経口投与投薬賦形剤が、前記物質と、前記物質が前記賦形剤から前記選択された領域に移動して、そこで吸収されるようにする環境を生み出すのに十分な濃度のイオン塩とを含有する投薬賦形剤を局所的に塗布するステップに関連して経口投与される、請求項４０に記載の方法。

【請求項４３】　前記局所適用投薬賦形剤が、局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択される、請求項４０に記載の方法。

【請求項４４】　前記物質と前記イオン塩とを含有する局所適用疎水性投薬賦形剤が皮膚に塗布される、請求項４０に記載の方法。

【請求項４５】　リポソーム内に前記物質と前記イオン塩とを含有する局所

適用投薬賦形剤が皮膚に塗布される、請求項４０に記載の方法。

【請求項４６】　前記物質と前記リポソーム内にイオン強度環境を生み出すのに十分な濃度のイオン塩とを含有する局所適用投薬賦形剤が、前記リポソームが前記賦形剤から皮膚に移動してそこで前記物質が吸収されるように、前記皮膚に塗布される、請求項４０に記載の方法。

【請求項４７】　前記物質と前記イオン塩とを含有する経皮パッチが前記皮膚に塗布される、請求項４０に記載の方法。

【請求項４８】　Ｌ－アルギニン（１日に付き０．５ｇから３０ｇ）を含む経口投与投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む局所適用投薬賦形剤に関連して経口投与される、請求項４０に記載の方法。

【請求項４９】　コリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）をさらに含む前記投薬賦形剤が皮膚に塗布される、請求項４８に記載の方法。

【請求項５０】　Ｌ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含有する前記投薬賦形剤が、前記皮膚に塗布される、請求項４９に記載の方法。

【請求項５１】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することを含む組織加温方法であって、有効な量の前記物質と、前記物質が前記賦形剤から前記皮膚に移動して前記物質がそこで吸収されるようにするイオン環境を生み出すのに十分な濃度のイオン塩とを含有する賦形剤を前記皮膚に局所的に塗布するステップを含む、方法。

【請求項５２】　前記物質と前記イオン塩とを含有する局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択された局所適用投薬賦形剤が、前記皮膚に塗布される、請求項５１に記載の方法。

【請求項５３】　前記物質と前記イオン塩とを含有する疎水性投薬賦形剤が前記皮膚に塗布される、請求項５１に記載の方法。

【請求項５４】　前記物質と前記イオン塩とをリポソーム内に含有する賦形剤が前記皮膚に塗布される、請求項５１に記載の方法。

【請求項５５】　リポソーム内に前記物質およびイオン塩を含有し、さらに前記リポソーム内にイオン強度環境を生み出すのに十分な濃度のイオン塩を含有する賦形剤が、前記リポソームが前記賦形剤から前記皮膚に移動するように前記皮膚に塗布される、請求項５１に記載の方法。

【請求項５６】　前記物質およびイオン塩を含有する経皮パッチが前記皮膚に塗布される、請求項５１に記載の方法。

【請求項５７】　水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ

／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、ビタミンＥ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、前記物質、およびＰ消耗剤（P depleting agent）を含む投薬賦形剤が、前記皮膚に塗布される、、請求項５１に記載の方法。

【請求項５８】　コリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）をさらに含む前記投薬賦形剤が、前記皮膚に塗布される、請求項５７に記載の方法。

【請求項５９】　Ｌ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）さらに含む投薬賦形剤が、前記皮膚に塗布される、請求項５７に記載の方法。

【請求項６０】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することによって表面的な壊疽を治癒するための方法であって、有効な量の前記物質と、前記物質が前記壊疽および前記壊疽の周囲領域によって吸収されるようにするイオン環境を生み出すのに十分な量の塩化ナトリウムとを含有する賦形剤を体に経口投与するステップを含む、方法。

【請求項６１】　前記賦形剤が、前記体に経口投与する前記物質を含有する経口投与カプセル、経口投与錠剤および経口投与液体からなるグループから選択される、請求項６０に記載の方法。

【請求項６２】　経口投与投薬賦形剤が、前記物質と前記物質が前記賦形剤から前記壊疽および前記壊疽の周囲の領域に移動するようにする環境を生み出すのに十分な濃度のイオン塩とを含有する投薬賦形剤を局所的に塗布するステップに関連して経口投与される、請求項６０に記載の方法。

【請求項６３】　前記投薬賦形剤が、局所適用クリーム、局所適用液体、局

所適用ローションおよび局所適用軟膏からなるグループから選択される、請求項６２に記載の方法。

【請求項６４】　前記物質と前記イオン塩とを含有する局所適用疎水性投薬賦形剤が、前記壊疽および前記壊疽の周囲領域に塗布される、請求項６２に記載の方法。

【請求項６５】　リポソーム内に前記物質を含有し、さらには前記リポソーム内にイオン強度環境を生み出すのに十分な濃度のイオン塩を含有する局所適用投薬賦形剤が、前記リポソームが前記賦形剤から前記壊疽および前記壊疽の周囲領域に移動するように皮膚に塗布される、請求項６２に記載の方法。

【請求項６６】　前記物質およびイオン塩を含有する経皮パッチが、前記壊疽および前記壊疽の周囲領域に塗布される、請求項６２に記載の方法。

【請求項６７】　Ｌ－アルギニン（１日に付き０．５ｇから３０ｇ）を含む経口投与投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から2-5％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／

ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む局所適用投薬賦形剤に関連して経口投与される、請求項６２に記載の方法。

【請求項６８】　コリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）をさらに含む投薬賦形剤が、前記壊疽および前記壊疽の周囲領域に塗布される、請求項６７に記載の方法。

【請求項６９】　Ｌ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含有する投薬賦形剤が、前記壊疽および前記壊疽の周囲領域に塗布される、請求項６７に記載の方法。

【請求項７０】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択されたキョートルフィン放出物質を皮膚に対して投薬することを含む、痛みを和らげるための方法であって、有効な量の物質と、前記物質が前記賦形剤から前記皮膚に移動して、前記皮膚で前記物質が、前記皮膚に対するカプサイシンおよびオレオレジンからなるグループのメンバーから選択されたＰ消耗剤の投薬に関連して吸収されるようにする、イオン環境を生み出すために十分な濃度のイオンとを含有する賦形剤を前記皮膚に局所的に塗布するステップを含む、方法。

【請求項７１】　前記物質、前記イオン塩および前記Ｐ消耗剤を含有する局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択された局所適用投薬賦形剤が、前記皮膚に塗布される、請求項７０に記載の方法。

【請求項７２】　前記物質、前記イオン塩および前記Ｐ消耗剤を含有する疎水性投薬賦形剤が、前記皮膚に塗布される、請求項７０に記載の方法。

【請求項７３】　リポソーム内に前記物質および前記Ｐ消耗剤を含有し、さらには前記リポソーム内にイオン強度環境を生み出すために十分な濃度のイオン塩を含有する賦形剤が、前記リポソームが前記賦形剤から前記皮膚に移動するように前記皮膚に塗布される、請求項７０に記載の方法。

【請求項７４】　前記物質、前記イオン塩および前記Ｐ消耗剤を含有する経皮パッチが、前記皮膚に塗布される、請求項７０に記載の方法。

【請求項７５】　水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－

１８％ｗ／ｖ）、グリセリンステアラート（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、ビタミンＥ（０．０２％ ｗ／ｖ－４％ ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、前記物質、および前記Ｐ消耗剤を含む投薬賦形剤が前記皮膚に塗布される、請求項７０に記載の方法。

【請求項７６】　前記投薬賦形剤が、０．００５％ｗ／ｖから０．５％ｗ／ｖの範囲でＰ消耗剤としてカプサイシンを含む、請求項７０に記載の方法。

【請求項７７】　前記投薬賦形剤が、０．０５％ｗ／ｖから２．５％ｗ／ｖの範囲でＰ消耗剤としてオレオレジンを含む、請求項７０に記載の方法。

【請求項７８】　血流を増加させるための組成物であって、

Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループから選択された酸化窒素放出物質と、

前記組成物が皮膚に塗布されたときに前記物質が担体からヒトの前記皮膚に移動するようにするイオン環境を生み出すのに十分な濃度のイオン塩を含む物質投薬担体とを備える、組成物。

【請求項７９】　前記物質投薬担体が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステア

ラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、ビタミンＥ（０．０２％ｗ／ｖ－４％ ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、および塩化ナトリウム（０．２５％から２５％ｗ／ｖ）をさらに含む、請求項７８に記載の組成物。

【請求項８０】　前記イオン塩が、コリン塩化物、塩化ナトリウム、塩化マグネシウムおよびそれらの混合物からなるグループから選択される、請求項７８に記載の組成物。

【請求項８１】　前記イオン塩が、血液の生理的イオン強度の２倍よりも高いイオン強度を有する、請求項８０に記載の組成物。

【請求項８２】　前記酸化窒素放出物質が、約０．２５％ｗ／ｖから２５％ｗ／ｖの濃度を有する、請求項７８に記載の組成物。

【請求項８３】　約１２．５％ｗ／ｖのＬ－アルギニン塩酸塩と、

約１０．０％ｗ／ｖのコリン塩化物と、

約５％ｗ／ｖの塩化ナトリウムと、

約５％ｗ／ｖの塩化マグネシウムと、

局所適用投薬賦形剤とを含む、血流を増加させるための組成物。

【請求項８４】　前記局所適用投薬賦形剤が、

水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）

、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、ビタミンＥ（０．０２％ ｗ／ｖ－４％ ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、および塩化ナトリウム（０．２５％から２５％ｗ／ｖ）を含む、請求項８３に記載の組成物。

【請求項８５】　前記組成物が、約３ｐＨから１１ｐＨのｐＨを有する、請求項８３に記載の組成物。

【発明の詳細な説明】

【０００１】

【発明の分野】

本発明は一般に、限定はされないがアルギニンおよびＬ－アルギニンを含む物質を含有する、局所適用法または経口投与法のいずれかで投薬される投薬賦形剤に関する。この投薬賦形剤の目的は、ヒトまたは哺乳類の組織にアルギニンまたはＬ－アルギニンを導入して、鎮痛、冷えたまたは低温の組織の加温、頭皮での育毛、糖尿病または寝たきりが原因となる下肢壊疽の治癒、インポテンスの軽減といった有益な効果をもたらし、さらには局所的な血液の供給量を改善することに基づき自然の機能を回復させることによって有益な効果をもたらすことが目的である。

【０００２】

【先行技術】

局所的な血流を改善するための方策の中には、多くの全身性および局所的方策がある。局所的な血流に悪影響が及ぼされることによりさまざまな不都合な問題が生じるため、局所的な血流を改善することにより多くの有益な効果が得られる。これらの問題の中には、手および足の冷え、ある症状となって現れるインポテンス、禿頭症および脚の壊疽がある。

【０００３】

手、指、足および爪先の組織の冷えならびに他の組織の冷えの基本的な原因は、組織への血流が不十分なことにある。血管を緩和させることにより、特に細い血管および非常に細い血管への血流を増加させると、低温組織が加温されることが提案されている。しかしながら、血管を拡張させて血流を増加させる活性物質の使用による加温の試みの多くは悪い結果に終わっている。

【０００４】

以前から手または足の冷えは、暖かいソックスまたは手袋、場合によっては機械的に加熱されるソックスまたは手袋を着用することによって治療されてきた。化学反応によって熱を発生するホットパック、手袋または靴のインサートの使用によっても、可能性のある解決策が得られてきた。別の治療法は、刺激薬である

、ある種のリニメント剤の塗布である。これらのリニメント剤には唐辛子から導出された物質、引赤薬（capsicum）、およびそのエキスである蕃椒脂油がある。より最近では、ニトログリセリンを含有する局所適用クリームが使用されている。しかしながらニトログリセリンは心臓作用性薬物であるため、それを使用すると心臓への影響が懸念される。これらの方策すべてはあるレベルではうまくいくが、その性質は極度に一時的なものである。

【０００５】

さらに、陰茎への血流が不十分な場合、男性の勃起不能（インポテンス）の主な原因となることが認識されている。試験管内組織培養実験およびさまざまな動物実験により、酸化窒素は陰茎の海綿性組織における血管の弛緩に重要な媒介物であることが発見されている。インポテンスの治療には、血管を膨張させることができるため局所適用ニトログリセリンが使用されている。しかしながら、このような治療の結果は決定的なものではなく、この治療はニトログリセリンに対して心臓が反応するため、十分に許容されるものではないことが分かっている。

【０００６】

また、頭皮の血流が欠乏することにより、男性の部分禿頭症が生じることも認識されている。男性の部分禿頭症に対する育毛用の薬剤として局所適用ミノキシジルを使用することにより、さまざまな結果が得られている。頭皮への血液供給量を増加することによってミノキシジルが作用することが示されている。

【０００７】

さらに、先行技術では鎮痛緩和に対する多くの方策がある。これらの試みの多くは、アスピリンおよびイブプロフェンから、コデインなどのより強力な麻酔薬である経口投与剤にまで及ぶ、経口投与鎮痛剤が含まれる。これに代えて、被験者の痛みが激しい場合、モルヒネを含む麻酔薬剤が使用されている。アミノ酸Ｌ－アルギニンは自然の内因性鎮痛薬物質キョートルフィン(kyotorphin)に対する前駆体であることがわかっている。大量（患者１人に付き３０ｇ）のＬ－アルギニンを静脈内に投与すると鎮痛に好都合な結果が得られることがわかっている。この治療はキョートルフィンのレベルを高めることにより効を奏すると考えられる。しかしながら、この治療は日常生活の中で使用するには非実用的であり、最

も極端な形の慢性的な痛みのみに確保される。生化学前駆体がＬ－アルギニンである酸化窒素によって、ｂエンドルフィンで引き起こされる鎮痛の効力が増すことがわかっている。アルギニンの使用とは異なった別の鎮痛方法には、唐辛子から導出された物質であるカプサイシンの適用が含まれる。

【０００８】

【発明の概要】

本発明によると、酸化窒素前駆体、アルギニンおよびその誘導体を、局所適用法、経口投与法またはそれらの組合せのいずれかによって投薬することにより、後に酸化窒素が血液の中に放出されることによって血流が増加することにより、さまざまな有益な効果が生まれることが発見されている。これらの有益な効果の中には、冷えたまたは低温組織の加温、陰茎の勃起、発毛機能の回復および脚の壊疽の治癒が含まれる。さらに、本発明によると、局所適用法によって投薬されるアルギニンは、カプサイシン、引赤薬またはその抽出物である蕃椒脂油によって強化された場合、体の特定の領域に投与されると痛みを緩和することができる。

【０００９】

本発明の１つの重要な実施例において、所望の効果を得るために十分な濃度でアルギニンまたはアルギニン誘導体を含有する投薬賦形剤を、敵対的生物物理学的環境を生み出すために十分な濃度の塩化ナトリウムまたは他の塩類とともに、局所適用法、経口投与法またはそれらを組合せた方法のいずれかで、冷えたまたは低温組織を有する選択された領域に塗布すると、後に組織が加温される。組織の加温は治療領域への血流が増加することによって引起こされる。この加温効果は延長することができ、２時間から１８時間も持続することがある。非常に低温な組織（２２℃）のヒトの場合、この加温効果は１０℃以上も見られる。

【００１０】

本発明の別の実施例では、所望の効果を生むのに十分な濃度でアルギニンまたはアルギニン誘導体を含有する投薬賦形剤を、敵対的な生物物理学的環境をもたらすよう十分な濃度の塩化ナトリウムまたは他の塩類とともに、局所適用法、経口投与法またはそれらを組合せた方法のいずれかによって、陰茎に適用すること

により、局所的な血流を改善し、同時にインポテンスの問題を克服する。

【００１１】

本発明のさらなる実施例では、所望の効果を生むよう十分な濃度でアルギニンまたはアルギニン誘導体を含有する投薬賦形剤を、敵対的な生物物理学的環境を生むよう十分な濃度の塩化ナトリウムまたは他の塩類とともに、局所適用法、経口投与法またはそれらを組み合わせた方法のいずれかによって、頭皮の禿げた領域に毎晩適用して、新しい毛髪の育成を促進する。

【００１２】

本発明のさらなる実施例では、所望の効果を生むよう十分な濃度でアルギニンまたはアルギニン誘導体を含有する投薬賦形剤を、敵対的な生物物理学的環境を生むよう十分な濃度の塩化ナトリウムまたは塩類とともに、局所適用法、経口投与法またはそれらを組み合わせた方法のいずれかによって、下肢壊疽などの表面の壊疽に適用して、周囲の領域の血流を増加させることにより治癒を促進する。

【００１３】

本発明による別の実施例では、所望の効果を生むよう十分な濃度でアルギニンまたはアルギニン誘導体を含有する投薬賦形剤を、敵対的な生物物理学的環境をもたらすよう十分な濃度の塩化ナトリウムまたは他の塩類ならびに所望の効果を生むよう十分な濃度のカプサイシンまたは蕃椒脂油とともに、局所適用法、経口投与法またはそれらの組合せのいずれかによって、痛みのある領域に直接塗布して痛みを緩和する。

【００１４】

【発明の目的】

したがって、本発明の主な目的は、酸化窒素放出物質を使用することにより体のうち選択された領域への血流を増加して、スキーまたは他の冬期野外活動といった、手および足の冷えを引起こす状況に入る前に、哺乳類またはヒトの組織が低温になることを防止することである。

【００１５】

本発明の別の目的は、酸化窒素放出物質を使用することにより陰茎への血流を増加して、インポテンスの問題を克服するための手段を提供することである。

【００１６】

本発明のさらに別の目的は、酸化窒素放出物質を使用することにより局所的な血流を増加させて、ヒトの頭皮のうち禿げた部分の育毛を促進することである。

【００１７】

本発明のさらに別の目的は、酸化窒素放出物質を使用することにより局所的な血流を増加させて、脚の表面的な壊疽の治癒を引起こすことである。

【００１８】

本発明のさらに別の目的は、酸化窒素放出物質を使用することにより局所的な血流を増加させて、痛みを緩和することである。

【００１９】

【好ましい実施例の詳細な説明】

最初に述べておくが、本発明は以下のより詳細な説明によって、最も広い範囲の全体的な局面で理解されるべきである。本発明は、１つの実施例において、酸化窒素を放出することにより有益な効果を生み出すためのアルギニンまたはその誘導体の投薬方法である。本発明は、アルギニンの担体または賦形剤が、アルギニンの他にアルギニンが担体から離れて組織に入るようにする薬剤を含有すると、アルギニンの放出を可能にする、という発見に基づく。

【００２０】

経口投与投薬賦形剤

本発明の好ましい実施例の１つは、アルギニンまたはその誘導体の１つを２００ｍｇから５００ｍｇの量だけ含有する経口投与投薬カプセル、錠剤または液体からなるグループから選択された経口投与投薬賦形剤と、アルギニンが賦形剤から周囲の領域に移動するようにするイオン環境をもたらすのに十分な量の塩化ナトリウムなどの、ある濃度のイオン塩とを投与することを含む。

【００２１】

本発明の別の目的は、何ヶ月かにわたって毎晩禿頭領域に塗布すると、ヒトの頭皮の禿頭部での育毛が促進されるようにすることである。しかしながら、実質的な育毛は頭皮の広い領域にわたって達成でき、２，３週間で明らかとなり、数ヶ月でかなりのものとなった。

【００２２】

局所適用投薬賦形剤

本発明の１つの実施例は、皮膚への吸収特性が非常によい局所適用投薬賦形剤を含む。この局所適用投薬賦形剤は、Ｌ－アルギニン塩酸塩（１２．５％ｗ／ｖ）、コリン塩化物（１０％ｗ／ｖ）、塩化ナトリウム（５％ｗ／ｖ）および塩化マグネシウム（５％ｗ／ｖ）を含有する。ここで使用されるものとして、「％ｗ／ｖ」によって表わされる濃度表現はすべて、特に明記しない限り、たとえばクリーム、錠剤および液体といった形態に関係なく、製剤の全体積に対する重量％を意味する。

【００２３】

基礎クリームの成分は、ハンドクリームに通常見られるものであり得り、たとえば水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含有する。

【００２４】

Ｌ－アルギニン塩酸塩は酸化窒素ＮＯｘの分子に対する前駆体を提供する。酸化窒素は血流を増加させるために血管を弛緩する物質である。Ｌ－アルギニンベースの化合物、たとえばＬ－アルギニン塩酸塩の濃度は、好ましくは約０．２５％ｗ／ｖから２５％ｗ／ｖである。

【００２５】

コリン塩化物、塩化ナトリウムおよび塩化マグネシウムは、高度に帯電した分子Ｌ－アルギニンに非常に高いイオン強度の環境をもたらす塩類としての非限定的な例である。この高いイオン強度環境はＬ－アルギニンのための敵対的生物物理学的環境の一例である。すなわち、塩類によってＬ－アルギニン担体に与えられる高度に帯電したイオン強度はＬ－アルギニンを担体の外に移動させ、ヒトの組織などの、さほど帯電していない好都合な環境に移動することを容易にするか、または促進する、高度に帯電したＬ－アルギニンにとって不都合な環境である。イオン強度は好ましくは血液の生理的イオン強度の２倍よりも高い。

【００２６】

クリームは、深刻な糖尿病を患うヒトの脚に見られることが多い壊疽など、表面的な壊疽の治癒を促進する作用を果たす。２週間の期間にわたって１日に２回適用すると実質的な治癒効果が見られ、多くの場合では、この期間内またはそれよりもわずかに長い期間（３週間から４週間）で完全に治癒する。

【００２７】

したがって、酸化窒素放出物質、コリン塩化物、塩化ナトリウムおよび／または塩化マグネシウムは、育毛、下肢壊疽などの壊疽の治癒、または勃起機能不全を患う男性に正常な勃起機能を回復させるという有益な効果がある。本発明の別の重要な実施例は、上述の局所適用投薬賦形剤を含み、賦形剤はさらに引赤薬（０．０２５％ｗ／ｖ）または蕃椒脂油（０．５％ｗ／ｖ）を含む。引赤薬または蕃椒脂油の目的は、物質Ｐ（ＳＰ）の感覚繊維を消耗することである。クリームは、ヒトまたは哺乳類の組織に塗布される薬剤であり、痛みの緩和を助ける。

【００２８】

治療は、クリームを痛みのある領域に直接塗布することを含む。１２時間から

１６時間の時間にわたって毎時間ごとにこれを行ない、その後１日に２回これを行なうと、痛みが実質的に緩和した。

【００２９】

局所適用投薬賦形剤の使用に関連した経口投与投薬賦形剤の使用

本発明による別の実施例は、上述の局所適用投薬賦形剤の使用に関連した、上述の経口投与投薬賦形剤の使用である。これらの投薬賦形剤の両方を組合せて使用すると、上述の有益な効果のいずれかが有効に得られる。

【００３０】

たとえば、酸化窒素放出物質を含有する局所適用投薬賦形剤に関連して使用される酸化窒素放出物質を経口投与することによる治療は、７日から１０日の期間にわたって毎日行なわれ、その後も毎日行なうと、多くの男性に見られるインポテンスの問題が実質的に軽減する。

【００３１】

他の活性材料

Ｌ－アルギニン塩酸塩は酸化窒素放出物質として使用するのに好ましい活性剤であるが、他の薬剤の中にも酸化窒素の前駆体または供与体とし使用できるものがある。具体的には、Ｌ－アルギニン塩酸塩は、毒性がなく、可溶性が高く値段の安い天然化合物であるため、好ましい。使用され得る他の前駆体には、Ｄ、Ｌ－アルギニン、Ｌ－アルギニン、Ｌ－アルギニンのアルキル（エチル、メチル、プロピル、イソプロピル、ブチル、イソブチル、ｔ－ブチル）エステルおよびその塩類がある。薬学的に許容できる塩類には、塩酸塩、グルタマート、ブチラートおよびグリコレートが含まれる。

【００３２】

代替的な活性剤が使用される場合には、それを単に、投薬製剤およびＬ－アルギニン製剤の場合と同様に使用される製剤、およびＬ－アルギニン製剤の場合と同様に使用される製剤のＬ－アルギニンと置き換えるとよい。クリームはＬ－アルギニンの他に引赤薬または蕃椒脂油を含有し得る。

【００３３】

吸収を行なうための他の手段

吸収を行なうためにはさまざまな担体が可能である。Ｌ－アルギニンなどの高度に帯電した分子を組織の中に吸収させるための１つの方策は、Ｌ－アルギニンが組織に入った方が好ましい状態になるように、投薬賦形剤に生物物理学的な敵対的環境を生み出すことである。他の方策は、Ｌ－アルギニンが組織の中に運搬され、および／または中性塩の導出または形成によってその電荷を中性にするように、Ｌ－アルギニンをパッケージングすることを含む。限定はされないが生物物理学的な敵対的環境の例としては、高イオン強度、高または低ｐＨおよび／または高疎水性環境が挙げられる。組織に運搬され得るパッケージングの例としては、コラーゲンのリポソームまたはエマルション、コラーゲンペプチド、または皮膚または基底膜の他の成分が挙げられる。電荷の中性化の例としては、電子的に中性である塩およびアルギニングルタマートがある。他の許容できるアルギニン塩類は先に述べた。

【００３４】

活性剤に敵対的な生物物理学的環境を生み出す場合、適当な製剤に薬剤が添加される。高イオン強度のイオン環境を生み出す場合、限定はされないが塩化ナトリウム、塩化カリウム、塩化コリン、塩化リチウムなどの塩類が単独で、または組合せられて高濃度で添加され、血液の生理的強度の２倍よりも高いイオン強度を達成するようにする。このように帯電したアミノ酸類のポリリシン、ポリグルタミン、ポリアスパラギンまたはコポリマーなどの、他の高度に帯電した分子は、敵対的な生物物理学的環境を生み出すために使用され得る。

【００３５】

これに代えて、敵対的な生物物理学的環境は、水を少ししか含まないかまたは全く含まない油ベースのクリームなどの疎水性の油分の多い環境に、高度に帯電したＬ－アルギニンを付与することによって得ることができる。好ましい疎水性またはロー（ρ）は、血液の生理的な疎水性の２倍よりも高い。吸収は、敵対的な生物物理学的環境の使用と、蕃椒脂油などの浸透剤、または炭化水素鎖が付着されたヘテロ環を含むその構成要素または分子を組合せて使用することによって、さらに補助される。

【００３６】

高または低ｐＨ環境が選択された敵対的な環境であれば、好ましいｐＨ範囲は約３ｐＨから１１ｐＨである。

【００３７】

臨床的用途

例１

この例では、非常に指の冷たいヒトに、浸透性クリーム、Ｌ－アルギニン塩酸塩（１５％ｗ／ｖ）および塩化ナトリウム（１０％ｗ／ｖ）の投薬賦形物を含む上記加温クリームが与えられた。被験者の左手の指の表面温度は２１℃から２４℃であった。加温クリームは皮膚に擦り込むことによって塗布された。各指の表面温度は最初の１時間は１５分ごとに測定された。加温クリームを投与してから最初の１５分が経過したとき、さまざまな指の表面温度が２６℃から２９℃まで上昇するという認識可能な効果が見え始めた。効果は４５分後に最高になり、このときさまざまな指の表面温度は３１℃から３４℃まで上昇していた。この効果は少なくとも４時間継続して見られた。

【００３８】

例２

この例では、髪の生え際が非常に後退しており、頭の頭部後側に大きな「禿頭部」を有する禿頭症の５３歳の男性に、Ｌ－アルギニン塩酸塩（１５％ｗ／ｖ）および塩化ナトリウム（１０％ｗ／ｖ）を含有する浸透性クリームが与えられた。クリームは就寝前に毎晩禿頭領域に塗布され、吸収が最高となるように広範囲にわたって擦り込まれた。２，３週間以内に新しい毛髪が生え始めた。４ヶ月以内に、（禿頭部の皮膚に対して以前は４ｃｍも後退していた）後退していた生え際が正常な位置まで戻り、以前は７ｃｍもの直径であった「禿頭部」が直径２ｃｍ未満の領域まで小さくなり、この領域には新しい毛髪も生え始めた。

【００３９】

例３

インポテンス歴のある５４歳の男性に、経口投与カプセルの形態で１．５ｇのＬ－アルギニンが毎日投与され、これとともに、７日間にわたって１日２回、Ｌ－アルギニン塩酸塩（１５％ｗ／ｖ）および塩化ナトリウム（１０％ｗ／ｖ）を

含有する浸透性クリームが陰茎に直接塗布され、これにより、インポテンスの症状がまず軽減され、被験者は正常な性的活動を取り戻すことができた。この症状の軽減は、毎日治療を継続することによって維持された。

【００４０】

例４

１３年間の慢性的な頸痛歴を有する５２歳の女性に、Ｌ－アルギニン塩酸塩（１２．５％ｗ／ｖ）、コリン塩化物（１０％ｗ／ｖ）、塩化マグネシウム（５％ｗ／ｖ）および塩化ナトリウム（５％ｗ／ｖ）が１日間４時間に一回、その後は１日に２回首に直接塗布され、これにより、第１日目に痛みが軽減した。この症状の軽減は、１日に二度治療を継続することによって維持された。

【００４１】

例５

３年間にわたって肩の痛みを患う３５歳の男性に、Ｌ－アルギニン塩酸塩（１２％ｗ／ｖ）、コリン塩化物（１０％ｗ／ｖ）、塩化マグネシウム（５％ｗ／ｖ）、塩化ナトリウム（５％ｗ／ｖ）および蕃椒脂油（０．５％ｗ／ｖ）を含有する浸透性クリームが１日間４時間ごとに、その後は１日に２回直接痛みのある領域に塗布され、これにより８時間以内に痛みが軽減した。この症状の軽減は、１日に２回の治療を継続することによって維持された。

【００４２】

例６

この例では、髪の生え際が非常に後退しており、かつ頭の頂部後側に大きな「禿頭部」を有する、頭皮に十分な毛髪のない５３歳の男性に、Ｌ－アルギニン塩酸塩（１２．５％ｗ／ｖ）、コリン塩化物（１０％ｗ／ｖ）、塩化ナトリウム（１０％ｗ／ｖ）および塩化マグネシウム（５％ｗ／ｖ）を含有する浸透性クリームが与えられた。このクリームは就寝前に毎晩禿頭領域に塗布され、吸収が最高となるように広範囲にわたって擦り込まれた。２、３週間以内に新しい毛髪が生えた。４ヶ月以内に（以前は皮膚の禿頭部の４ｃｍも後退していた）後退していた生え際が正常な位置まで戻り、以前は直径が７ｃｍ以上もあった「禿頭部」が、直径２ｃｍ未満の領域まで小さくなり、その２ｃｍの直径の領域には新しい毛

髪が生えた。

【００４３】

例７

インポテンス歴のある５４歳の男性に、Ｌ－アルギニン塩酸塩（１２．５％ｗ／ｖ）、コリン塩化物（１０％ｗ／ｖ）、塩化ナトリウム（１０％ｗ／ｖ）および塩化マグネシウム（５％ｗ／ｖ）を含有する浸透性クリームが、７日間にわたって１日に２回陰茎に直接塗布され、これにより、インポテンスの症状が軽減して、被験者は正常な性的活動を取り戻すことができた。この症状の軽減は、治療を毎日継続することによって維持された。

【００４４】

例８

インポテンス歴のある６２歳の男性に、Ｌ－アルギニン塩酸塩（１２．５％ｗ／ｖ）、コリン塩化物（１０％ｗ／ｖ）、塩化ナトリウム（５％ｗ／ｖ）および塩化マグネシウム（５％ｗ／ｖ）を含有する浸透性クリームに基づいた水分を含有するコンドームを勃起状態が望まれる３０分間から６０分前に男性の弛緩状態にある陰茎に装着され、この結果、性行為が望まれるときに勃起状態が得られるようになった。勃起状態は容易に達成でき、正常な性的活動が行なわれた。

【００４５】

例９

この例では、指の温度が非常に低いヒト（５２歳の女性）に、Ｌ－アルギニン塩酸塩（１２．５％ｗ／ｖ）、コリン塩化物（１０％ｗ／ｖ）、塩化マグネシウム（５％ｗ／ｖ）および塩化ナトリウム（５％ｗ／ｖ）を含有する浸透性クリームの投薬賦形物を含有する上記加温クリームが与えられた。被験者の左手の指の表面温度は２１℃から２４℃であった。加温クリームは皮膚に擦り込むことによって塗布された。各指の表面温度は最初の１時間は１５分おきに測定された。加温クリームの塗布後最初の１５分が経過したときに、さまざまな指の表面温度が２６℃から２９℃まで上昇するという顕著な効果が現れるようになった。効果は４５分後に最高になり、このときさまざまな指の表面温度は３１℃から３４℃にまで到達した。この効果は少なくとも４時間継続した。

【００４６】

例によって示したように、本発明は投薬賦形剤における酸化窒素の放出物質を投与するための方法を提供し、この投薬賦形剤は、低温であり痛むことの多い組織に塗布されると、体自体の機構の１つを利用することによって皮膚の温度を高め、熱を発生させる。この効果は、それから調整用物質および酸化窒素が生成される生化学的基質を局所部位に与えることによって達成される。酸化窒素は局所的な血流を増加させ、これにより温度が上昇する。

【００４７】

さらに、本発明は、投薬賦形剤における酸化窒素放出物質を投与するための方法を提供し、この投薬賦形剤は、インポテンスの症状のあるヒトに適用されると、体自体の機構を利用することによりインポテンスが治るようにする。この効果は、それから調整用物質および酸化窒素が生成される生化学的基質を局所部位に与えることによって達成される。

【００４８】

さらに、本発明は投薬賦形剤における酸化窒素放出物質を投与するための方法を提供し、この投薬賦形剤は、禿頭部を有する頭皮に適用されると、体自体の機構のうちの１つを利用することによって育毛を引起こす。この効果は、それから調整用物質および酸化窒素が生成される生化学的基質を局所部位に与えることによって達成される。酸化窒素は局所的な血流を増加させ、これにより育毛が可能となる。

【００４９】

さらに本発明は、投薬賦形剤における酸化窒素放出物質を投与するための方法を提供し、この投薬賦形剤は下肢壊疽に塗布されると、体自体の機構を利用することによって治癒する。酸化窒素は局所的な血流を増加させ、これにより体自体の、治癒に必要な細胞および物質が壊疽の部位に到達するようになる。

【００５０】

さらに、本発明は、投薬賦形剤における酸化窒素放出物質を投与するための方法を提供し、この投薬賦形剤は、痛みのあるヒトに適用されると、体自体の機能を使用することにより痛みが軽減または解消するようにする。この効果は、それ

から調整用物質およびＬ－アルギニンが生成される生化学的基質を局所部位に与えることによって達成され、これにより自然の鎮痛用キョートルフィンのレベルが向上し、および／または自然のエンドルフィンの効力が増す。さらに、本発明では、Ｌ－アルギニンが引赤薬または蕃椒脂油に関連して使用されると、鎮痛のさらなる機構、感覚繊維からの物質Ｐの消耗が活性化される。

【００５１】

上記の記述は多くの詳細を含むが、これらは発明の範囲を制限するのではなく本発明の現在の好ましい実施例のうちいくつかを単に例示するだけであるものと解されるべきである。他のさまざまな実施例および変形がこの範囲内で可能である。したがって発明の範囲は上記の例によってではなく前掲の特許請求の範囲およびそれらの法的な均等物によってのみ決定されるべきである。

【手続補正書】特許協力条約第１９条補正の翻訳文提出書

【提出日】平成１１年３月５日（１９９９．３．５）

【手続補正１】

【補正対象書類名】明細書

【補正対象項目名】特許請求の範囲

【補正方法】変更

【補正内容】

【特許請求の範囲】

【請求項１】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループから選択された酸化窒素放出物質を、皮膚の選択された領域に投薬するための方法であって、有効な量の前記物質を含む物質投薬賦形剤を前記皮膚に局所的に塗布するステップを備え、前記賦形剤は、前記物質が前記賦形剤から前記皮膚に移動し、前記皮膚で前記物質が吸収されるようにする、前記物質のための敵対的な生物物理学的環境を生み出す、方法。

【請求項２】　前記物質およびイオン塩を含有する、局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択された賦形剤が、前記皮膚に塗布される、請求項１に記載の方法。

【請求項３】　前記賦形剤が、前記物質および少なくとも１つのリポソームを含有する疎水性投薬賦形剤である、請求項１に記載の方法。

【請求項４】　前記物質および前記少なくとも１つのリポソームを含有する賦形剤が、前記少なくとも１つのリポソームが前記賦形剤から前記皮膚に移動するように前記皮膚に塗布される、請求項３に記載の方法。

【請求項５】　前記賦形剤が約３ｐＨから１１ｐＨのｐＨを有する、請求項１に記載の方法。

【請求項６】　投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリ

セリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む、請求項１に記載の方法。

【請求項７】　前記投薬賦形剤がコリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含有する、請求項６に記載の方法。

【請求項８】　前記投薬賦形剤がＬ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含む、請求項６に記載の方法。

【請求項９】　男性のインポテンスの治療方法であって、Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループから選択された窒素塩化物放出物質を、有効な量だけ前記物質を含有する投薬賦形剤を陰茎に局所的に塗布することによって投薬するステップを含み、前記賦形剤は、前記物質が前記賦形剤から前記陰茎に移動して前記物質が吸収されるようにする、敵対的な生物物理的環境を生み出す、方法。

【請求項１０】　前記賦形剤が、前記物質を含有する局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択される、請求項９に記載の方法。

【請求項１１】　前記投薬賦形剤が、前記物質および少なくとも１つのリポソームを含有する疎水性投薬賦形剤である、請求項９に記載の方法。

【請求項１２】　前記物質およびリポソームを含有する賦形剤が、前記少なくとも１つのリポソームが前記賦形剤から前記陰茎に移動するように、前記陰茎に塗布される、請求項１１に記載の方法。

【請求項１３】　前記投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む、請求項９に記載の方法。

【請求項１４】　前記投薬賦形剤がコリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含む、請求項１３に記載の方法。

【請求項１５】　前記投薬賦形剤がＬ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含有する、請求項１３に記載の方法。

【請求項１６】　前記投薬賦形剤が、前記陰茎に着用されるコンドームに含有される、請求項９に記載の方法。

【請求項１７】　育毛促進方法であって、Ｌ－アルギニン、Ｌ－アルギニン

塩類およびＬ－アルギニン誘導体からなるグループから選択された酸化窒素放出物質を、有効な量だけ前記物質を含有する投薬賦形剤を、育毛が望まれる皮膚の選択された領域に局所的に塗布することにより投薬するステップを含み、前記投薬賦形剤により、前記物質が前記賦形剤から前記皮膚の選択された領域に移動し、そこで前記物質が吸収されるようにする、敵対的な生物物理学的環境を生み出す、方法。

【請求項１８】　前記賦形剤が、前記物質を含有する局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択される、請求項１７に記載の方法。

【請求項１９】　前記投薬賦形剤が、前記物質および少なくとも１つのリポソームを含有する疎水性投薬賦形剤である、請求項１７に記載の方法。

【請求項２０】　前記物質および前記少なくとも１つのリポソームを含有する賦形剤が、前記リポソームが前記賦形剤から育毛が望まれる前記皮膚に移動するように、前記皮膚の選択された領域に塗布される、請求項１９に記載の方法。

【請求項２１】　前記投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．

０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む、請求項１７に記載の方法。

【請求項２２】　コリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含む前記投薬賦形剤が、育毛が望まれる皮膚の選択された領域に塗布される、請求項２１に記載の方法。

【請求項２３】　Ｌ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）をさらに含む前記投薬賦形剤が、育毛が望まれる皮膚の選択された領域に塗布される、請求項２１に記載の方法。

【請求項２４】　前記物質がパッチから皮膚の選択された領域に移動するように、イオン強度環境を生み出すのに十分な濃度で前記物質およびイオン塩を含有する経皮パッチが、育毛が望まれる場所に塗布される、請求項１７に記載の方法。

【請求項２５】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することにより育毛を促進するための方法であって、有効な量の前記物質と、前記物質が周囲の組織によって吸収されるようにするイオン環境を生み出すために十分な濃度の塩化ナトリウムとを含有する賦形剤を体に経口投与するステップを含む、方法。

【請求項２６】　前記賦形剤が、前記物質を含有する経口投与カプセル、経口投与錠剤および経口投与液体からなるグループから選択されて、前記体に経口投与される、請求項２５に記載の方法。

【請求項２７】　前記物質を含有する経口投与投薬賦形剤が、前記物質と、前記物質が前記局所適用投薬賦形剤から育毛が望まれる皮膚の選択された領域に移動するようにするイオン強度環境を生み出すために十分な濃度のイオン塩とを含有する投薬賦形剤を局所適用するステップに関連して経口投与される、請求項２５に記載の方法。

【請求項２８】　Ｌ－アルギニン（１日に付き０．５ｇから３０ｇ）を含む

経口投与投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む局所適用投薬賦形剤に関連して経口投与される、請求項２７に記載の方法。

【請求項２９】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することにより局所的な血流を増加させるための方法であって、有効な量の前記物質と、前記物質が周囲の組織によって吸収されるようにするイオン環境を生み出すために十分な濃度の塩化ナトリウムとを含有する賦形剤を体に経口投与するステップを含む、方法。

【請求項３０】　前記経口投与投薬賦形剤が、体に経口投与される、前記物質を含有する経口投与カプセル、経口投与錠剤および経口投与液体からなるグループから選択される、請求項２９に記載の方法。

【請求項３１】　１日に付き０．５ｇから３０ｇの範囲でＬ－アルギニンを

含む経口投与投薬賦形剤が経口投与される、請求項２９に記載の方法。

【請求項３２】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することによって局所的な血流を増加させるための方法であって、有効な量の前記物質と、前記物質が前記賦形剤から前記物質が吸収される皮膚の選択された領域に移動するようにする環境を生み出すために十分な濃度のイオン塩とを含有する投薬賦形剤を局所的に適用するステップに関連して、有効な量の前記物質と、前記物質が周囲の組織によって吸収されるようにするイオン環境を生み出すのに十分な濃度の塩化ナトリウムとを含有する賦形剤を体に経口投与するステップを含む、方法。

【請求項３３】　前記局所適用投薬賦形剤が、局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択される、請求項３２に記載の方法。

【請求項３４】　前記物質と、前記イオン塩を含有する局所適用疎水性投薬賦形剤が、前記皮膚に塗布される、請求項３２に記載の方法。

【請求項３５】　前記物質およびリポソーム内にイオン強度環境を生み出すのに十分な濃度のイオン塩とを含有する局所適用投薬賦形剤が、前記リポソームが前記賦形剤から前記皮膚に移動し、そこで吸収されるように、前記皮膚に塗布される、請求項３２に記載の方法。

【請求項３６】　前記物質と前記イオン塩とを含有する経皮パッチが前記皮膚に塗布される、請求項３２に記載の方法。

【請求項３７】　Ｌ－アルギニン（１日に付き０．５ｇから３０ｇ）を含む経口投与投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％

ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む局所適用投薬賦形剤に関連して経口投与される、請求項３２に記載の方法。

【請求項３８】　コリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）をさらに含む局所適用投薬賦形剤が前記皮膚に塗布される、請求項３７に記載の方法。

【請求項３９】　Ｌ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）含有する局所適用投薬賦形剤が、前記皮膚に塗布される、請求項３７に記載の方法。

【請求項４０】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することによって冷えたまたは低温の組織を加温するための方法であって、有効な量の前記物質と、前記物質が周囲の組織によって吸収されるようにするイオン環境を生み出すのに十分な濃度の塩化ナトリウムとを含有する賦形剤を経口投与するステップを含む、方法。

【請求項４１】　前記経口投与投薬賦形剤が、体に経口投与される前記物質を含有する、経口投与カプセル、経口投与錠剤および経口投与液体からなるグループから選択される、請求項４０に記載の方法。

【請求項４２】　前記物質を含有する経口投与投薬賦形剤が、前記物質と、前記物質が前記賦形剤から前記選択された領域に移動して、そこで吸収されるようにする環境を生み出すのに十分な濃度のイオン塩とを含有する投薬賦形剤を局

所的に塗布するステップに関連して経口投与される、請求項４０に記載の方法。

【請求項４３】　前記局所適用投薬賦形剤が、局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択される、請求項４０に記載の方法。

【請求項４４】　前記物質と前記イオン塩とを含有する局所適用疎水性投薬賦形剤が皮膚に塗布される、請求項４０に記載の方法。

【請求項４５】　リポソーム内に前記物質と前記イオン塩とを含有する局所適用投薬賦形剤が皮膚に塗布される、請求項４０に記載の方法。

【請求項４６】　前記物質と前記リポソーム内にイオン強度環境を生み出すのに十分な濃度のイオン塩とを含有する局所適用投薬賦形剤が、前記リポソームが前記賦形剤から皮膚に移動してそこで前記物質が吸収されるように、前記皮膚に塗布される、請求項４０に記載の方法。

【請求項４７】　前記物質と前記イオン塩とを含有する経皮パッチが前記皮膚に塗布される、請求項４０に記載の方法。

【請求項４８】　Ｌ－アルギニン（１日に付き０．５ｇから３０ｇ）を含む経口投与投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素

（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む局所適用投薬賦形剤に関連して経口投与される、請求項４０に記載の方法。

【請求項４９】　コリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）をさらに含む前記投薬賦形剤が皮膚に塗布される、請求項４８に記載の方法。

【請求項５０】　Ｌ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含有する前記投薬賦形剤が、前記皮膚に塗布される、請求項４９に記載の方法。

【請求項５１】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することを含む組織加温方法であって、有効な量の前記物質と、前記物質が前記賦形剤から前記皮膚に移動して前記物質がそこで吸収されるようにするイオン環境を生み出すのに十分な濃度のイオン塩とを含有する賦形剤を前記皮膚に局所的に塗布するステップを含む、方法。

【請求項５２】　前記物質と前記イオン塩とを含有する局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択された局所適用投薬賦形剤が、前記皮膚に塗布される、請求項５１に記載の方法。

【請求項５３】　前記物質と前記イオン塩とを含有する疎水性投薬賦形剤が前記皮膚に塗布される、請求項５１に記載の方法。

【請求項５４】　前記物質と前記イオン塩とをリポソーム内に含有する賦形剤が前記皮膚に塗布される、請求項５１に記載の方法。

【請求項５５】　リポソーム内に前記物質およびイオン塩を含有し、さらに前記リポソーム内にイオン強度環境を生み出すのに十分な濃度のイオン塩を含有する賦形剤が、前記リポソームが前記賦形剤から前記皮膚に移動するように前記皮膚に塗布される、請求項５１に記載の方法。

【請求項５６】　前記物質およびイオン塩を含有する経皮パッチが前記皮膚

に塗布される、請求項５１に記載の方法。

【請求項５７】　水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、ビタミンＥ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、前記物質、およびＰ消耗剤（P depleting agent）を含む投薬賦形剤が、前記皮膚に塗布される、、請求項５１に記載の方法。

【請求項５８】　コリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）をさらに含む前記投薬賦形剤が、前記皮膚に塗布される、請求項５７に記載の方法。

【請求項５９】　Ｌ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）さらに含む投薬賦形剤が、前記皮膚に塗布される、請求項５７に記載の方法。

【請求項６０】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択された酸化窒素放出物質を投薬することによって表面的な壊疽を治癒するための方法であって、有効な量の前記物質と、前記物質が前記壊疽および前記壊疽の周囲領域によって吸収されるようにするイオン環境を生み出すのに十分な量の塩化ナトリウムとを含有する賦形剤を体に経口投与するステップを含む、方法。

【請求項６１】　前記賦形剤が、前記体に経口投与する前記物質を含有する

経口投与カプセル、経口投与錠剤および経口投与液体からなるグループから選択される、請求項６０に記載の方法。

【請求項６２】　経口投与投薬賦形剤が、前記物質と前記物質が前記賦形剤から前記壊疽および前記壊疽の周囲の領域に移動するようにする環境を生み出すのに十分な濃度のイオン塩とを含有する投薬賦形剤を局所的に塗布するステップに関連して経口投与される、請求項６０に記載の方法。

【請求項６３】　前記投薬賦形剤が、局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択される、請求項６２に記載の方法。

【請求項６４】　前記物質と前記イオン塩とを含有する局所適用疎水性投薬賦形剤が、前記壊疽および前記壊疽の周囲領域に塗布される、請求項６２に記載の方法。

【請求項６５】　リポソーム内に前記物質を含有し、さらには前記リポソーム内にイオン強度環境を生み出すのに十分な濃度のイオン塩を含有する局所適用投薬賦形剤が、前記リポソームが前記賦形剤から前記壊疽および前記壊疽の周囲領域に移動するように皮膚に塗布される、請求項６２に記載の方法。

【請求項６６】　前記物質およびイオン塩を含有する経皮パッチが、前記壊疽および前記壊疽の周囲領域に塗布される、請求項６２に記載の方法。

【請求項６７】　Ｌ－アルギニン（１日に付き０．５ｇから３０ｇ）を含む経口投与投薬賦形剤が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート［ＳＥ］（０．５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート［ＳＥ］（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、グリセリンステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、イソプロピルミリステート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ステアリルステアラート（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、トコフェノールアセタート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５

％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％から２５％ｗ／ｖ）、塩化ナトリウム（０．２５％から２５％ｗ／ｖ）、および塩化マグネシウム（０．２５％から２５％ｗ／ｖ）を含む局所適用投薬賦形剤に関連して経口投与される、請求項６２に記載の方法。

【請求項６８】　コリン塩化物（０．２５％ｗ／ｖ－２５％ｗ／ｖ）をさらに含む投薬賦形剤が、前記壊疽および前記壊疽の周囲領域に塗布される、請求項６７に記載の方法。

【請求項６９】　Ｌ－アルギニングルタマート（０．２５％ｗ／ｖ－２５％ｗ／ｖ）を含有する投薬賦形剤が、前記壊疽および前記壊疽の周囲領域に塗布される、請求項６７に記載の方法。

【請求項７０】　Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループのメンバーから選択されたキョートルフィン放出物質を皮膚に対して投薬することを含む、痛みを和らげるための方法であって、有効な量の物質と、前記物質が前記賦形剤から前記皮膚に移動して、前記皮膚で前記物質が、前記皮膚に対するカプサイシンおよびオレオレジンからなるグループのメンバーから選択されたＰ消耗剤の投薬に関連して吸収されるようにする、イオン環境を生み出すために十分な濃度のイオンとを含有する賦形剤を前記皮膚に局所的に塗布するステップを含む、方法。

【請求項７１】　前記物質、前記イオン塩および前記Ｐ消耗剤を含有する局所適用クリーム、局所適用液体、局所適用ローションおよび局所適用軟膏からなるグループから選択された局所適用投薬賦形剤が、前記皮膚に塗布される、請求項７０に記載の方法。

【請求項７２】　前記物質、前記イオン塩および前記Ｐ消耗剤を含有する疎水性投薬賦形剤が、前記皮膚に塗布される、請求項７０に記載の方法。

【請求項７３】　リポソーム内に前記物質および前記Ｐ消耗剤を含有し、さらに前記イオン塩を含有する賦形剤が、前記皮膚に塗布される、請求項７０に記載の方法。

【請求項７４】　リポソーム内に前記物質および前記Ｐ消耗剤を含有し、さらには前記リポソーム内にイオン強度環境を生み出すのに十分な濃度のイオン塩を含有する賦形剤が、前記リポソームが前記賦形剤から前記皮膚に移動するように前記皮膚に塗布される、請求項７０に記載の方法。

【請求項７５】　前記投薬賦形剤、前記物質、および前記Ｐ消耗剤が、陰茎に着用されるコンドームに含有される、請求項７０から７４に記載の方法。

【請求項７６】　前記物質、前記イオン塩および前記Ｐ消耗剤を含有する経皮パッチが、前記皮膚に適用される、請求項７０に記載の方法。

【請求項７７】　水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、ビタミンＥ（０．０２％ ｗ／ｖ－４％ ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％ｗ／ｖから２５％ｗ／ｖ）、および塩化ナトリウム（０．２５％ｗ／ｖから２５％ｗ／ｖ）、前記物質、および前記Ｐ消耗剤を含む投薬賦形剤が前記皮膚に塗布される、請求項７０に記載の方法。

【請求項７８】　前記投薬賦形剤が、０．００５％ｗ／ｖから０．５％ｗ／ｖの範囲でＰ消耗剤としてカプサイシンを含む、請求項７０に記載の方法。

【請求項７９】　前記投薬賦形剤が、０．０５％ｗ／ｖから２．５％ｗ／ｖの範囲でＰ消耗剤としてオレオレジンを含む、請求項７０に記載の方法。

【請求項８０】　血流を増加させるための組成物であって、

Ｌ－アルギニン、Ｌ－アルギニン塩類およびＬ－アルギニン誘導体からなるグループから選択された酸化窒素放出物質と、

前記組成物が皮膚に塗布されたときに前記物質が担体からヒトの前記皮膚に移動するようにするイオン環境を生むために十分な濃度のイオン塩を含む物質投薬担体とを備える、組成物。

【請求項８１】　前記物質投薬担体が、水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、ビタミンＥ（０．０２％ｗ／ｖ－４％ ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％ｗ／ｖから２５％ｗ／ｖ）、および塩化ナトリウム（０．２５％ｗ／ｖから２５％ｗ／ｖ）をさらに含む、請求項８０に記載の組成物。

【請求項８２】　前記イオン塩が、コリン塩化物、塩化ナトリウム、塩化マグネシウムおよびそれらの混合物からなるグループから選択される、請求項８０に記載の組成物。

【請求項８３】　前記イオン塩が、血液の生理的イオン強度の２倍よりも高いイオン強度を有する、請求項８２に記載の組成物。

【請求項８４】　前記酸化窒素放出物質が、約０．２５％ｗ／ｖから２５％ｗ／ｖの濃度を有する、請求項８０に記載の組成物。

【請求項８５】　約１２．５％ｗ／ｖのＬ－アルギニン塩酸塩と、

約１０．０％ｗ／ｖのコリン塩化物と、

約５％ｗ／ｖの塩化ナトリウムと、

約５％ｗ／ｖの塩化マグネシウムと、

局所適用投薬賦形剤とを含む、血流を増加させるための組成物。

【請求項８６】　前記局所適用投薬賦形剤が、

水（２０％ｗ／ｖ－８０％ｗ／ｖ）、鉱油（３％ｗ／ｖ－１８％ｗ／ｖ）、グリセリンステアラート（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、スクアレン（０．２５％ｗ／ｖ－１２％ｗ／ｖ）、セチルアルコール（０．１％ｗ／ｖ－１１％ｗ／ｖ）、プロピレングリコールステアラート（０．１％ｗ／ｖ－１１％ｗ／ｖ）、小麦胚油（０．１％ｗ／ｖ－６％ｗ／ｖ）、ポリソルベート６０（０．１％ｗ／ｖ－５％ｗ／ｖ）、プロピレングリコール（０．０５％ｗ／ｖ－５％ｗ／ｖ）、コラーゲン（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ソルビタンステアラート（０．０５％ｗ／ｖ－５％ｗ／ｖ）、ビタミンＡおよびＤ（０．０２％ｗ／ｖ－４％ｗ／ｖ）、ビタミンＥ（０．０２％ ｗ／ｖ－４％ ｗ／ｖ）、トリエタノールアミン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、メチルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、アロエエキス（０．０１％ｗ／ｖ－４％ｗ／ｖ）、イミダゾリジニル尿素（０．０１％ｗ／ｖ－４％ｗ／ｖ）、プロピルパラベン（０．０１％ｗ／ｖ－４％ｗ／ｖ）、ｂｈａ（０．０１％ｗ／ｖ－４％ｗ／ｖ）、Ｌ－アルギニン塩酸塩（０．２５％ｗ／ｖから２５％ｗ／ｖ）、および塩化ナトリウム（０．２５％ｗ／ｖから２５％ｗ／ｖ）　を含む、請求項８５に記載の組成物。

【請求項８７】　前記組成物が、約３ｐＨから１１ｐＨのｐＨを有する、請求項８５に記載の組成物。

【国際調査報告】

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/19429

A. CLASSIFICATION OF SUBJECT MATTER
IPC(6) : A01N 37/20
US CL : 514/310, 478, 479; 424/718
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 514/310, 478, 479; 424/718

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
none

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
none

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,595,753 A (HECHTMAN) 21 January 1997, patent claim 6, paragraph bridging col. 1 and 2.	1, 2, 6, 29, 32-35, 40-44, 47, 48, 52-53, 55, 78-82
X	US 5,629,002 A (WEUFFEN et al.) 13 May 1997, see Example 10.	1, 2, 5, 6, 17-19, 21, 25, 27, 28, 29, 32-37, 40-44, 47, 48, 51-53, 55, 78-82

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
07 DECEMBER 1998	11 JAN 1999
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer JEFFREY MULLIS Telephone No. (703) 308-0661

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(81)指定国 ＥＰ(ＡＴ，ＢＥ，ＣＨ，ＣＹ，ＤＥ，ＤＫ，ＥＳ，ＦＩ，ＦＲ，ＧＢ，ＧＲ，ＩＥ，ＩＴ，ＬＵ，ＭＣ，ＮＬ，ＰＴ，ＳＥ)，ＯＡ(ＢＦ，ＢＪ，ＣＦ，ＣＧ，ＣＩ，ＣＭ，ＧＡ，ＧＮ，ＧＷ，ＭＬ，ＭＲ，ＮＥ，ＳＮ，ＴＤ，ＴＧ)，ＡＰ(ＧＨ，ＧＭ，ＫＥ，ＬＳ，ＭＷ，ＳＤ，ＳＺ，ＵＧ，ＺＷ)，ＥＡ(ＡＭ，ＡＺ，ＢＹ，ＫＧ，ＫＺ，ＭＤ，ＲＵ，ＴＪ，ＴＭ)，ＡＬ，ＡＭ，ＡＴ，ＡＵ，ＡＺ，ＢＡ，ＢＢ，ＢＧ，ＢＲ，ＢＹ，ＣＡ，ＣＨ，ＣＮ，ＣＵ，ＣＺ，ＤＥ，ＤＫ，ＥＥ，ＥＳ，ＦＩ，ＧＢ，ＧＥ，ＧＨ，ＧＭ，ＨＲ，ＨＵ，ＩＤ，ＩＬ，ＩＳ，ＪＰ，ＫＥ，ＫＧ，ＫＰ，ＫＲ，ＫＺ，ＬＣ，ＬＫ，ＬＲ，ＬＳ，ＬＴ，ＬＵ，ＬＶ，ＭＤ，ＭＧ，ＭＫ，ＭＮ，ＭＷ，ＭＸ，ＮＯ，ＮＺ，ＰＬ，ＰＴ，ＲＯ，ＲＵ，ＳＤ，ＳＥ，ＳＧ，ＳＩ，ＳＫ，ＳＬ，ＴＪ，ＴＭ，ＴＲ，ＴＴ，ＵＡ，ＵＧ，ＵＺ，ＶＮ，ＹＵ，ＺＷ

Ｆターム(参考) 4C076 AA06 AA11 AA19 AA72 BB01 BB31 CC11 CC17 CC18 DD08 DD23 DD34 DD37 DD44 DD46 DD50 DD54 DD59 EE23 EE43 EE53 EE58
4C083 AA111 AB331 AB332 AC021 AC071 AC121 AC351 AC421 AC441 AC481 AC541 AC581 AC582 AC681 AD041 AD431 AD621 AD651 CC05 CC37 DD31 EE22
4C206 AA01 AA02 FA53 HA32 MA36 MA44 MA48 MA55 MA57 MA72 MA83 ZA81 ZA89 ZA92 ZC01

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* NOTICES *

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1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] The nitrogen oxide released goods chosen from the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative It has the step which applies locally to said skin the matter medication excipient which is an approach for prescribing a medicine for the field to which the skin was chosen, and contains said an effective quantity of matter. Said excipient How to produce the hostile biophysical environment for said matter where said matter moves to said skin from said excipient, and said matter is made to be absorbed on said skin.
[Claim 2] The approach according to claim 1 by which the excipient chosen from the group who consists of the topical application cream containing said matter and an ion salt, a topical application liquid, a topical application lotion, and topical application ointment is applied to said skin.
[Claim 3] The approach according to claim 1 said excipient is a hydrophobic medication excipient containing said matter and at least one liposome.
[Claim 4] The approach according to claim 3 by which the excipient containing said matter and said at least one liposome is applied to said skin so that said at least one liposome may move to said skin from said excipient.
[Claim 5] The approach according to claim 1 said excipient has pH of about 3 pH to 11pH.
[Claim 6] A medication excipient Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.5% w/v-12%w/v), squalene (0.2%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach containing L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and a magnesium chloride (25%[0.25% to] w/v) according to claim 1.
[Claim 7] The approach according to claim 6 said medication excipient contains a choline chloride (0.25%w/v-25% w/v).
[Claim 8] The approach according to claim 6 said medication excipient includes L-arginine GURUTA mart (0.25% w/v-25%w/v).
[Claim 9] Said excipient is the approach of producing hostile living thing physical environment that said matter moves to said phallus from said excipient, and said matter is made to be absorbed, including the step prescribed by applying locally to a phallus the medication excipient in which only an effective amount contains said matter for the nitrogen chloride released goods which are the therapy approaches of male impotency and were chosen from the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative.
[Claim 10] The approach according to claim 9 chosen from the group which said excipient becomes from the topical application cream containing said matter, a topical application liquid, a topical application lotion, and topical application ointment.
[Claim 11] The approach according to claim 9 said medication excipient is a hydrophobic medication excipient containing said matter and at least one liposome.
[Claim 12] The approach according to claim 11 by which the excipient containing said matter and liposome is applied to said phallus so that said at least one liposome may move to said phallus from said excipient.
[Claim 13] Said medication excipient Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate [SE] (0.5%w/v-12%w/v), Squalene (0.2%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate [SE] (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl

myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach containing L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and a magnesium chloride (25%[0.25% to] w/v) according to claim 9.

[Claim 14] The approach according to claim 13 said medication excipient contains a choline chloride (0.25%w/v-25%w/v).

[Claim 15] The approach according to claim 13 said medication excipient contains L-arginine GURUTA mart (0.25%w/v-25%w/v).

[Claim 16] The approach according to claim 9 which said medication excipient contains to the condom worn by said phallus.

[Claim 17] The nitrogen oxide released goods which are the hair-fostering promotion approaches and were chosen from the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative The step which prescribes the medication excipient in which only an effective amount contains said matter by applying to the field to which the skin which hair fostering is expected was chosen locally is included. By said medication excipient The approach of producing a hostile biophysical environment that said matter moves to the field to which said skin was chosen from said excipient, and said matter is made to be absorbed there.

[Claim 18] The approach according to claim 17 chosen from the group which said excipient becomes from the topical application cream containing said matter, a topical application liquid, a topical application lotion, and topical application ointment.

[Claim 19] The approach according to claim 17 said medication excipient is a hydrophobic medication excipient containing said matter and at least one liposome.

[Claim 20] The approach according to claim 19 by which the excipient containing said matter and said at least one liposome is applied to the field to which said skin was chosen for said liposome from said excipient so that it may move to said skin expected hair fostering.

[Claim 21] Said medication excipient Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate [SE] (0.5%w/v-12%w/v), Squalene (0.2%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate [SE] (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach containing L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and a magnesium chloride (25%[0.25% to] w/v) according to claim 17.

[Claim 22] The approach according to claim 21 by which said medication excipient containing a choline chloride (0.25%w/v-25%w/v) is applied to the field to which the skin expected hair fostering was chosen.

[Claim 23] The approach according to claim 21 by which said medication excipient which includes L-arginine GURUTA mart (0.25%w/v-25%w/v) further is applied to the field to which the skin expected hair fostering was chosen.

[Claim 24] The approach according to claim 17 by which the endermic patch which contains said matter and an ion salt by concentration sufficient so that said matter may move to the field to which the skin was chosen from the patch to produce an ionic strength environment is applied to the location where hair fostering is desired.

[Claim 25] how to be an approach for promote hair fostering by prescribe the nitrogen oxide released goods chose from the member of the group who consist of L - arginine , L - arginine salts , and an L - arginine derivative , and contain the step which administer orally to the body the excipient containing an effective quantity of said matter , and the sodium chloride of concentration sufficient in order to produce the ion environment where a surrounding organization be make for said matter to be absorb .

[Claim 26] The approach according to claim 25 which is chosen from the group which said excipient becomes from the internal use capsule, internal use tablet, and internal use liquid containing said matter, and is administered orally to said body.

[Claim 27] The approach according to claim 25 administered orally in relation to the step which carries out

topical application of the medication excipient containing the ion salt of concentration sufficient in order that the internal use medication excipient containing said matter may produce the ionic strength environment which said matter and said matter move to the field to which the skin expected hair fostering was chosen from said topical application medication excipient.
[Claim 28] The internal use medication excipient containing L-arginine (it will be attached on the 1st and is 0.5g to 30g) Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate [SE] (0.5%w/v-12%w/v), Squalene (0.2%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate [SE] (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach according to claim 27 administered orally in relation to L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and the topical application medication excipient containing a magnesium chloride (25%[0.25% to] w/v).
[Claim 29] the approach of be an approach for make a local blood flow increase by prescribe the nitrogen oxide released goods chose from the member of the group who consist of an L - arginine , L - arginine salts , and an L - arginine derivative , and contain the step which administer orally to the body the excipient containing an effective quantity of said matter , and the sodium chloride of concentration sufficient in order to produce the ion environment where a surrounding organization be make to absorb said matter
[Claim 30] The approach according to claim 29 chosen from the group which said internal use medication excipient becomes from the internal use capsule containing said matter by which it is administered orally to the body, an internal use tablet, and an internal use liquid.
[Claim 31] The approach according to claim 29 by which the internal use medication excipient which will be attached on the 1st and contains L-arginine in 0.5 to 30g is administered orally.
[Claim 32] It is an approach for making a local blood flow increase by prescribing the nitrogen oxide released goods chosen from the member of the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative. It relates to the step which applies locally the medication excipient containing the ion salt of concentration sufficient in order to produce the environment which said an effective quantity of matter and said matter move to the field to which the skin by which said matter is absorbed was chosen from said excipient. Said an effective quantity of matter, The approach containing the step which administers orally to the body the excipient containing the sodium chloride of sufficient concentration to produce the ion environment where a surrounding organization is made for said matter to be absorbed.
[Claim 33] The approach according to claim 32 chosen from the group which said topical application medication excipient becomes from a topical application cream, a topical application liquid, a topical application lotion, and topical application ointment.
[Claim 34] The approach according to claim 32 by which said matter and the topical application hydrophobic medication excipient containing said ion salt are applied to said skin.
[Claim 35] The approach according to claim 32 applied to said skin so that said liposome may move to said skin from said excipient and the topical application medication excipient containing the ion salt of sufficient concentration to produce an ionic strength environment in said matter and liposome may be absorbed there.
[Claim 36] The approach according to claim 32 by which the endermic patch containing said matter and said ion salt is applied to said skin.
[Claim 37] The internal use medication excipient containing L-arginine (it will be attached on the 1st and is 0.5g to 30g) Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate [SE] (0.5%w/v-12%w/v), Squalene (0.2%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate [SE] (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach according to claim 32 administered orally in relation to L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and the topical application medication excipient containing a magnesium chloride (25%[0.25% to] w/v).

[Claim 38] The approach according to claim 37 by which the topical application medication excipient which contains a choline chloride (0.25%w/v-25%w/v) further is applied to said skin.
[Claim 39] The approach according to claim 37 by which the topical application medication excipient which carries out L-arginine GURUTA mart (0.25%w/v-25%w/v) content is applied to said skin.
[Claim 40] how to contain [to be an approach for warm a low-temperature organization , or it got cold by prescribe the nitrogen oxide released goods chose from the member of the group who consist of L-arginine , L-arginine salts , and an L-arginine derivative , and] the step which administer orally the excipient containing an effective quantity of said matter , and the sodium chloride of sufficient concentration to produce the ion environment where a surrounding organization be make said matter to be absorb .
[Claim 41] The approach according to claim 40 chosen from the group which said internal use medication excipient becomes from the internal use capsule, internal use tablet, and internal use liquid containing said matter administered orally to the body.
[Claim 42] The approach according to claim 40 by which said matter and said matter move to said selected field from said excipient, and the internal use medication excipient containing said matter is administered orally in relation to the step which applies locally the medication excipient containing the ion salt of sufficient concentration to produce the environment which is made to be absorbed there.
[Claim 43] The approach according to claim 40 chosen from the group which said topical application medication excipient becomes from a topical application cream, a topical application liquid, a topical application lotion, and topical application ointment.
[Claim 44] The approach according to claim 40 by which the topical application hydrophobic medication excipient containing said matter and said ion salt is applied to the skin.
[Claim 45] The approach according to claim 40 by which the topical application medication excipient which contains said matter and said ion salt in liposome is applied to the skin.
[Claim 46] The approach according to claim 40 applied to said skin so that said liposome may move [the topical application medication excipient containing the ion salt of sufficient concentration to produce an ionic strength environment in said matter and said liposome] to the skin from said excipient and said matter may be absorbed there.
[Claim 47] The approach according to claim 40 by which the endermic patch containing said matter and said ion salt is applied to said skin.
[Claim 48] The internal use medication excipient containing L-arginine (it will be attached on the 1st and is 0.5g to 30g) Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate [SE] (0.5%w/v-12%w/v), Squalene (0.2%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate [SE] (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach according to claim 40 administered orally in relation to L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and the topical application medication excipient containing a magnesium chloride (25%[0.25% to] w/v).
[Claim 49] The approach according to claim 48 by which said medication excipient which contains a choline chloride (0.25%w/v-25%w/v) further is applied to the skin.
[Claim 50] The approach according to claim 49 by which said medication excipient containing L-arginine GURUTA mart (0.25%w/v-25%w/v) is applied to said skin.
[Claim 51] an organization including prescribe the nitrogen oxide released goods chose from the member of the group who consist of L-arginine , L-arginine salts , and an L-arginine derivative -- warming -- the approach containing the step which apply locally to said skin the excipient containing the ion salt of sufficient concentration to produce the ion environment where it be an approach , and an effective quantity of said matter and said matter move from said excipient to said skin , and said matter be made be absorb there .
[Claim 52] The approach according to claim 51 by which the topical application medication excipient chosen from the group who consists of the topical application cream containing said matter and said ion salt, a topical application liquid, a topical application lotion, and topical application ointment is applied to said skin.
[Claim 53] The approach according to claim 51 by which the hydrophobic medication excipient containing said matter and said ion salt is applied to said skin.

[Claim 54] The approach according to claim 51 by which the excipient which contains said matter and said ion salt in liposome is applied to said skin.
[Claim 55] The approach according to claim 51 by which the excipient which contains said matter and an ion salt in liposome, and contains the ion salt of sufficient concentration to produce an ionic strength environment in said liposome further is applied to said skin so that said liposome may move to said skin from said excipient.
[Claim 56] The approach according to claim 51 by which the endermic patch containing said matter and an ion salt is applied to said skin.
[Claim 57] Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.25%w/v-12%w/v), squalene (0.25%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), polysorbate 60 (0.1%w/v-5%w/v), Propylene glycol (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Vitamin E (0.02%w/v-4%w/v), triethanolamine (0.01%w/v-4%w/v), The methylparaben (0.01%w/v-4%w/v), aloe extractives (0.01%w/v-4%w/v), An imidazolidinyl urea (0.01%w/v-4%w/v), propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), L-arginine hydrochloride (25%[0.25% to] w/v), The approach according to claim 51 by which a sodium chloride (25%[0.25% to] w/v), said matter, and the medication excipient containing the agent [exhausting / P] (P depleting agent) are applied to said skin.
[Claim 58] The approach according to claim 57 by which said medication excipient which contains a choline chloride (0.25%w/v-25%w/v) further is applied to said skin.
[Claim 59] L-arginine GURUTA mart (0.25%w/v-25%w/v) -- the approach according to claim 57 by which the medication excipient included further is applied to said skin.
[Claim 60] How to be an approach for recovering an external gangrene by prescribing the nitrogen oxide released goods chosen from the member of the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative, and contain the step which administers orally to the body the excipient containing said an effective quantity of matter, and the sodium chloride of sufficient amount to produce the ion environment where said matter is made to be absorbed by the perimeter field of said gangrene and said gangrene.
[Claim 61] The approach according to claim 60 chosen from the group which said excipient becomes from the internal use capsule, internal use tablet, and internal use liquid containing said matter administered orally to said body.
[Claim 62] The approach according to claim 60 by which an internal use medication excipient is administered orally in relation to the step to which said matter and said matter apply locally the medication excipient containing the ion salt of sufficient concentration to produce the environment it is made to move to the field around said gangrene and said gangrene from said excipient.
[Claim 63] The approach according to claim 62 chosen from the group which said medication excipient becomes from a topical application cream, a topical application liquid, a topical application lotion, and topical application ointment.
[Claim 64] The approach according to claim 62 by which the topical application hydrophobic medication excipient containing said matter and said ion salt is applied to the perimeter field of said gangrene and said gangrene.
[Claim 65] The approach according to claim 62 by which the topical application medication excipient which contains said matter in liposome and contains the ion salt of sufficient concentration to produce an ionic strength environment in said liposome further is applied to the skin so that said liposome may move to the perimeter field of said gangrene and said gangrene from said excipient.
[Claim 66] The approach according to claim 62 by which the endermic patch containing said matter and an ion salt is applied to the perimeter field of said gangrene and said gangrene.
[Claim 67] The internal use medication excipient containing L-arginine (it will be attached on the 1st and is 0.5g to 30g) Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate [SE] (0.5%w/v-12%w/v), Squalene (0.2%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate [SE] (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach according to claim 62 administered orally in relation to L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and the topical application medication excipient containing a magnesium chloride (25%[0.25% to] w/v).

[Claim 68] The approach according to claim 67 by which the medication excipient which contains a choline chloride (0.25%w/v-25%w/v) further is applied to the perimeter field of said gangrene and said gangrene.
[Claim 69] The approach according to claim 67 by which the medication excipient containing L-arginine GURUTA mart (0.25%w/v-25%w/v) is applied to the perimeter field of said gangrene and said gangrene.
[Claim 70] Include prescribing the kyotorphin released goods chosen from the member of the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative to the skin. Are an approach for softening a pain and an effective quantity of the matter and said matter move to said skin from said excipient. Make it absorbed on said skin in relation to medication of the agent [exhausting / P] chosen from the member of the group which said matter becomes from the capsaicin and oleoresin to said skin. The approach containing the step which applies locally the excipient containing the ion of concentration sufficient in order to produce an ion environment to said skin.
[Claim 71] The approach according to claim 70 by which the topical application medication excipient chosen from the group who consists of the topical application cream containing said matter, said ion salt, and said agent [exhausting / P], a topical application liquid, a topical application lotion, and topical application ointment is applied to said skin.
[Claim 72] The approach according to claim 70 by which the hydrophobic medication excipient containing said matter, said ion salt, and said agent [exhausting / P] is applied to said skin.
[Claim 73] The approach according to claim 70 by which the excipient which contains said matter and said agent [exhausting / P] in liposome, and contains the ion salt of sufficient concentration in order to produce an ionic strength environment in said liposome further is applied to said skin so that said liposome may move to said skin from said excipient.
[Claim 74] The approach according to claim 70 by which the endermic patch containing said matter, said ion salt, and said agent [exhausting / P] is applied to said skin.
[Claim 75] Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.25%w/v-12%w/v), squalene (0.25%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), polysorbate 60 (0.1%w/v-5%w/v), Propylene glycol (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Vitamin E (0.02% w/v-4% w/v), triethanolamine (0.01%w/v-4%w/v), The methylparaben (0.01%w/v-4%w/v), aloe extractives (0.01%w/v-4%w/v), An imidazolidinyl urea (0.01%w/v-4%w/v), propylparaben (0.01%w/v-4%w/v), The approach according to claim 70 by which bha (0.01%w/v-4%w/v), L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), said matter, and the medication excipient containing said agent [exhausting / P] are applied to said skin.
[Claim 76] The approach according to claim 70 said medication excipient contains capsaicin as an agent [exhausting / P] in the range of w/v 0.5% from w/v 0.005%.
[Claim 77] The approach according to claim 70 said medication excipient contains oleoresin as an agent [exhausting / P] in the range of w/v 2.5% from w/v 0.05%.
[Claim 78] It is a constituent for making a blood flow increase. Nitrogen oxide released goods chosen from the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative Constituent equipped with the matter medication support containing the ion salt of sufficient concentration to produce the ion environment which said matter moves to said human skin from support when said constituent is applied to the skin.
[Claim 79] Said matter medication support Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.25%w/v-12%w/v), squalene (0.25%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), polysorbate 60 (0.1%w/v-5%w/v), Propylene glycol (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02% w/v-4%w/v), Vitamin E (0.02% w/v-4% w/v), triethanolamine (0.01%w/v-4%w/v), The methylparaben (0.01%w/v-4%w/v), aloe extractives (0.01%w/v-4%w/v), An imidazolidinyl urea (0.01%w/v-4%w/v), propylparaben (0.01%w/v-4%w/v), The constituent according to claim 78 which contains further bha (0.01%w/v-4%w/v), L-arginine hydrochloride (25%[0.25% to] w/v), and a sodium chloride (25%[0.25% to] w/v).
[Claim 80] The constituent according to claim 78 chosen from the group which said ion salt becomes from a choline chloride, a sodium chloride, magnesium chlorides, and those mixture.
[Claim 81] The constituent according to claim 80 with which said ion salt has ionic strength with the physiological ionic strength of blood higher than twice.
[Claim 82] The constituent according to claim 78 with which said nitrogen oxide released goods have the concentration of w/v 25% from w/v about 0.25%.

[Claim 83] L-arginine hydrochloride of about 12.5%w/v Choline chloride of about 10.0%w/v Sodium chloride of about 5%w/v Magnesium chloride of about 5%w/v Constituent containing a topical application medication excipient for making a blood flow increase.
[Claim 84] Said topical application medication excipient Water (20%w/v-80%w/v), Mineral oil (3%w/v-18%w/v), glycerol stearate (0.25%w/v-12%w/v), Squalene (0.25%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), polysorbate 60 (0.1%w/v-5%w/v), Propylene glycol (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Vitamin E (0.02% w/v-4% w/v), triethanolamine (0.01%w/v-4%w/v), The methylparaben (0.01% w/v-4%w/v), aloe extractives (0.01%w/v-4%w/v), An imidazolidinyl urea (0.01%w/v-4%w/v), propylparaben (0.01% w/v-4%w/v), The constituent containing bha (0.01%w/v-4%w/v), L-arginine hydrochloride (25%[0.25% to] w/v), and a sodium chloride (25%[0.25% to] w/v) according to claim 83.
[Claim 85] The constituent according to claim 83 with which said constituent has pH of about 3 pH to 11pH.

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]
Generally, this invention relates to the medication excipient for which a medicine is prescribed by either the topical application method containing the matter containing an arginine and L-arginine, or the administering method, although limitation is not carried out. The purpose of this medication excipient introduces an arginine or L-arginine into the organization of Homo sapiens or the mammals. Recovery of painkilling and the membrum-inferius gangrene from which warming of a low-temperature organization, hair fostering by the scalp, diabetes mellitus, or bedridden become a cause or it got cold, It is the purpose to bring about the useful effectiveness of mitigation of impotency and to bring about useful effectiveness by recovering a natural function based on improving the amount of supply of still more nearly local blood.
[0002]
[Description of the Prior Art]
Generalized [many] and a local policy are in the policy for improving a local blood flow. Since various inconvenient problems arise by having a bad influence on a local blood flow, much useful effectiveness is acquired by improving a local blood flow. The gangrene of the cold of a hand and a guide peg, the impotency which serves as a certain symptom and appears, the baldness, and a foot is in these problems.
[0003]
The fundamental cause of the cold of the organization of a hand, a finger, a guide peg, and a tiptoe and the cold of other organizations is in the blood flow to an organization being inadequate. If the blood flow to a thin blood vessel and a very thin blood vessel is made to increase especially by making a blood vessel ease, it is proposed that a low-temperature organization is warmed. However, many of attempts of warming by use of the active substance to which a blood vessel is made to extend and a blood flow is made to increase are finished with the bad result.
[0004]
The cold of a hand or a guide peg is treated for some time by wearing the Sox or the glove mechanically heated depending on the warm Sox or a warm glove, and the case. The possible solution has been acquired also by use of an insertion of the hot pack and glove which generate heat by the chemical reaction, or shoes. Another cure is spreading of a certain kind of liniments which are stimulants. There are matter drawn from the red pepper, vesicant (capsicum), and capsicum oleoresin which is the extractives in these liniments. Recently, the topical application cream containing nitroglycerin is used more. However, since nitroglycerin is a heart operation nature drug, if it is used, we will be anxious about the effect on the heart. Although all these policies succeed on a certain level, the property is temporary to the degree of pole.
[0005]
Furthermore, when the blood flow to a phallus is inadequate, becoming the main causes of the male impotentia erigendi (impotency) is recognized. By the tissue culture experiment in a test tube, and various animal experiments, it is discovered that nitrogen oxide is a medium important for relaxation of the blood vessel in the cavernous organization of a phallus. Since a blood vessel can be expanded, topical application nitroglycerin is used for the therapy of impotency. However, the result of such a therapy is not decisive and it turns out that this therapy is not what is fully permitted in order that the heart may react to nitroglycerin.
[0006]
Moreover, when the blood flow of the scalp runs short, it is also recognized that the male partial baldness arises.

Various results are obtained by using the topical application minoxidil as drugs for hair fostering to the male partial baldness. It is shown by by increasing the amount of blood supply to the scalp that the minoxidil acts.
[0007]
Furthermore, there are many policies to painkilling relaxation in the advanced technology. The internal use painkiller with which many of these attempts attain to even the internal use agent which are more powerful anesthetics, such as codeine, from aspirin and ibuprofen is contained. It replaces with this, and when a test subject's pain is intense, the anesthetic agent containing morphine is used. It turns out that an amino acid L-arginine is a precursor to a natural endogenous analgesic matter kyotorphin (kyotorphin). If L-arginine [being extensive (it being attached to one patient and being 30g)] is prescribed for the patient into a vein, it turns out that a convenient result is obtained by painkilling. It is thought that this therapy takes effect by raising the level of a kyotorphin. However, this therapy is impractical for using it in everyday life, and is secured only to the chronic pain of the extremeest form. It turns out that the effect of painkilling caused by b endorphin increases with the nitrogen oxide whose biochemistry precursor is L-arginine. Application of the capsaicin which is the matter drawn from the red pepper is included in the another painkilling approach from which use of an arginine differed.
[0008]
[Summary of the Invention]
By prescribing a nitrogen oxide precursor, an arginine, and its derivative with either a topical application method, the administering methods or those combination, by emitting nitrogen oxide into blood behind, when a blood flow increases, according to this invention, it is discovered that various useful effectiveness is born. In such useful effectiveness, or it got cold, warming of a low-temperature organization, erection of a phallus, recovery of a hair growth function, and recovery of the gangrene of a foot are included. Furthermore, when strengthened by the capsicum oleoresin which is capsaicin, the vesicant, or its extract, the arginine for which a medicine is prescribed by the topical application method according to this invention can ease a pain, if a bodily specific field is medicated.
[0009]
In one important example of this invention, if it applies to the selected field which has a low-temperature organization or it got cold in either of the approaches which combined a topical application method, the administering method, or them with the sufficient sodium chloride or other salts of concentration in order to produce a hostile biophysical environment for the medication excipient which contains an arginine or an arginine derivative by sufficient concentration in order to acquire desired effectiveness, an organization will be warmed behind. Warming of an organization is caused when the blood flow to a therapy field increases. this warming -- effectiveness can be extended and may be maintained from 2 hours as long as 18 hours the case of the very low temperature Homo sapiens of an organization (22 degrees C) -- this warming -- 10 degrees C or more of effectiveness are seen.
[0010]
By applying to a phallus with either of the approaches which combined a topical application method, the administering method, or them with the sufficient sodium chloride or other salts of concentration so that a hostile biophysical environment might be brought about for the medication excipient which contains an arginine or an arginine derivative by concentration sufficient in the another example of this invention to induce desired effectiveness, a local blood flow is improved and the problem of impotency is conquered to coincidence.
[0011]
In the further example of this invention, it applies to the field which was bald as for the scalp every night with either of the approaches which combined a topical application method, the administering method, or them with the sufficient sodium chloride or other salts of concentration so that desired effectiveness may be induced, and a hostile biophysical environment may be induced for the medication excipient which contains an arginine or an arginine derivative by sufficient concentration, and training of new hair is promoted.
[0012]
In the further example of this invention, it applies to the gangrene of front faces, such as a membrum-inferius gangrene, with either of the approaches which combined a topical application method, the administering method, or them with the sufficient sodium chloride or the salts of concentration so that desired effectiveness may be induced, and a hostile biophysical environment may be induced for the medication excipient which contains an arginine or an arginine derivative by sufficient concentration, and recovery is promoted by making the blood flow of a surrounding field increase.

[0013]
In the another example by this invention, with the sufficient capsaicin or the sufficient capsicum oleoresin of concentration, it applies to a field with a pain directly, and a pain is eased with either a topical application method, the administering methods or those combination so that a hostile biophysical environment may be brought about for the medication excipient which contains an arginine or an arginine derivative by sufficient concentration so that desired effectiveness may be induced and the sodium chloride of sufficient concentration or other salts, and desired effectiveness may be induced.
[0014]
[Objects of the Invention]
Therefore, the main purposes of this invention are preventing increasing the blood flow to the field chosen among the bodies by using nitrogen oxide released goods, and the organization of the mammals or Homo sapiens becoming low temperature before going into the situation which causes the cold of hands and guide pegs, such as skiing or other winter field activities.
[0015]
Another purpose of this invention is offering the means for increasing the blood flow to a phallus and conquering the problem of impotency by using nitrogen oxide released goods.
[0016]
Still more nearly another purpose of this invention is promoting hair fostering of the part which was made to increase a local blood flow and was bald among human scalp by using nitrogen oxide released goods.
[0017]
Still more nearly another purpose of this invention is making a local blood flow increase and causing recovery of the external gangrene of a foot by using nitrogen oxide released goods.
[0018]
Still more nearly another purpose of this invention is making a local blood flow increase and easing a pain by using nitrogen oxide released goods.
[0019]
[Detailed explanation of a desirable example]
Although stated first, this invention should be understood on the overall aspect of affairs of the largest range by the following more detailed explanation. This invention is an arginine for producing useful effectiveness, or the medication approach of the derivative by emitting nitrogen oxide in one example. When the arginine other than an arginine contains the drugs with which the support or the excipient of an arginine separates from support, and it is made for this invention to go into an organization, it is based on discovery of enabling emission of an arginine.
[0020]
Internal-use medication excipient One of the desirable examples of this invention includes prescribing for the patient ion salts of a certain concentration, such as an internal-use medication excipient chosen from the group who consists of the internal use medication capsule, tablet, or liquid with which only the amount of 200 to 500mg contains one of an arginine or the derivative of its, and a sodium chloride of sufficient amount to bring about the ion environment which an arginine moves to a surrounding field from an excipient.
[0021]
When another purpose of this invention is applied to a baldness field over several months every night, it is that hair fostering in the baldness section of the human scalp is promoted. However, substantial hair fostering could be attained over the field where the scalp is large, became clear in 2 or 3 weeks, and became remarkable in several months.
[0022]
Topical application medication excipient One example of this invention contains a topical application medication excipient with the very sufficient absorption property to the skin. This topical application medication excipient contains L-arginine hydrochloride (12.5%w/v), a choline chloride (10%w/v), a sodium chloride (5%w/v), and a magnesium chloride (5%w/v). As what is used here, altogether, the concentration expression with which it is expressed by "%w/v" means weight % to the whole pharmaceutical preparation product, for example regardless of gestalten, such as a cream, a tablet, and a liquid, unless it writes clearly.
[0023]
The component of a basic cream is what is usually seen by the hand cream. ****, For example, water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.5%w/v-12%w/v), squalene (0.2%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v),

glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5% w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and a magnesium chloride (25% [0.25% to] w/v) are contained.

[0024]

L-arginine hydrochloride offers the precursor to the molecule of nitrogen oxide NOx. Nitrogen oxide is matter which loosens a blood vessel in order to make a blood flow increase. The compound of L-arginine base, for example, the concentration of L-arginine hydrochloride, is 25%w/v from about 0.25%w/v preferably.

[0025]

A choline chloride, a sodium chloride, and a magnesium chloride are the examples of un-limiting-as salts which bring the environment of very high ionic strength to the molecule L-arginine charged in altitude. This high ionic strength environment is an example of the hostile biophysical environment for L-arginine. That is, the ionic strength charged in the altitude given to L-arginine support by salts is an environment inconvenient for L-arginine charged in altitude which is made to move L-arginine out of support, and a human organization etc. makes it easy to move to the convenient environment where it is not charged so much, or is promoted. Ionic strength is preferably higher than the twice of the physiological ionic strength of blood.

[0026]

A cream achieves the operation which promotes recovery of external gangrenes, such as a gangrene looked at by the foot of the Homo sapiens who suffers from serious diabetes mellitus in many cases. If it applies twice over the period for two weeks on the 1st, the substantial recovery effectiveness will be seen, and by the case where they are many, it recovers completely in the period within this period slightly longer than it (from three weeks to four weeks).

[0027]

Therefore, nitrogen oxide released goods, a choline chloride, a sodium chloride, and/or a magnesium chloride have the useful effectiveness of making the man who suffers from recovery of gangrenes, such as hair fostering and a membrum-inferius gangrene, or an erection malfunction recover a normal erection function. In another, important example of this invention, an excipient contains the vesicant (0.025%w/v) or the capsicum oleoresin (0.5%w/v) further including an above-mentioned topical application medication excipient. The purpose of the vesicant or the capsicum oleoresin is exhausting the feeling fiber of matter P (SP). Creams are drugs applied to the organization of Homo sapiens or the mammals, and help relaxation of a pain.

[0028]

A therapy includes applying a cream to a field with a pain directly. When this was performed for during [every] per hour over 12 to 16 hours time amount and this was performed twice after that on the 1st, the pain eased substantially.

[0029]

Use of the internal use medication excipient relevant to use of a topical application medication excipient Another example by this invention is use of the above-mentioned internal use medication excipient relevant to use of an above-mentioned topical application medication excipient. If it is used combining both these medication excipients, either of the above-mentioned useful effectiveness will be acquired effectively.

[0030]

For example, if the therapy by administering orally the nitrogen oxide released goods used in relation to the topical application medication excipient containing nitrogen oxide released goods is performed over the period on the 7th day to the 10th every day and it carries out also after that every day, the problem of the impotency looked at by many males will mitigate substantially.

[0031]

Other activity ingredients Although L-arginine hydrochloride is an activator desirable although it is used as nitrogen oxide released goods, there are some which make the precursor or donator of nitrogen oxide and can be used also into other drugs. L-arginine hydrochloride does not have toxicity, and since fusibility is a high natural compound with a cheap price, specifically, it is desirable. The alkyl (ethyl, methyl, propyl, isopropyl, butyl, isobutyl, t-butyl) ester of D, L-arginine, L-arginine, and L-arginine and its salts are in other precursors which may be used. A hydrochloride, a GURUTA mart, butyrate, and glycolate are contained in pharmacologically

permissible salts.
[0032]
When an alternative-activator is used, it is good to replace it with L-arginine of the pharmaceutical preparation only used like the case of medication pharmaceutical preparation and L-arginine pharmaceutical preparation, and the pharmaceutical preparation used like the case of L-arginine pharmaceutical preparation. A cream may contain the vesicant or capsicum oleoresin other than L-arginine.
[0033]
Other means for absorbing Various support is possible in order to absorb. One policy for making the molecule charged in altitude, such as L-arginine, absorb during an organization is producing a biophysical hostile environment to a medication excipient so that L-arginine may be in a condition with more desirable going into an organization. Other policies include carrying out packaging of the L-arginine so that L-arginine may be carried during an organization and/or the charge may be made into neutrality by derivation or formation of neutral salt. Although limitation is not carried out, as an example of a biophysical hostile environment, high ionic strength, quantity or low pH, and/or a high hydrophobic environment are mentioned. As an example of the packaging which may be carried by the organization, other components of the liposome of a collagen or an emulsion, a collagen peptide, the skin, or basement membrane are mentioned. As an example of charge-neutrality-izing, there are the salt and arginine GURUTA mart which are neutrality electronically. The arginine salts which can permit others were described previously.
[0034]
Drugs are added by suitable pharmaceutical preparation when producing a biophysical environment hostile to an activator. When producing the ion environment of high ionic strength, although not carried out, salts, such as a sodium chloride, potassium chloride, choline chloride, and a lithium chloride, are independent, or it is combined, and is added by high concentration, and limitation attains ionic strength with the physiological reinforcement of blood higher than twice. Thus, the molecule charged in other altitude, such as the electrified poly lysine of amino acid, the poly glutamine, the poly asparagine, or a copolymer, may be used in order to produce a hostile biophysical environment.
[0035]
or [that, as for a hostile biophysical environment, only a few contains water by replacing with this] -- or it can obtain by giving L-arginine charged in altitude to an environment with much hydrophobic oil, such as a cream of the oil base which is not included at all. Desirable hydrophobicity or a desirable low (rho) is higher than the hydrophobic physiological twice of blood. Absorption is further assisted by using it combining the component or molecule including the heterocycle in which it adhered to use of a hostile biophysical environment, penetrating agents, such as capsicum oleoresin, or a hydrocarbon chain.
[0036]
If it is the hostile environment where quantity or the low pH environment was chosen, desirable pH range is 11pH from about 3 pH.
[0037]
clinical application Example 1 the above which contains the medication size enlargement object of a permeability cream, L-arginine hydrochloride (15%w/v), and a sodium chloride (10%w/v) in Homo sapiens with a very cold finger in this example -- warming -- the cream was given. The skin temperature of the finger on the left of a test subject was 21 degrees C to 24 degrees C. warming -- the cream was applied by rubbing into the skin. 1 hour of the beginning was measured for the skin temperature of each finger every 15 minutes. warming -- after prescribing the cream for the patient, when 15 minutes of the beginning have passed, the effectiveness which can be recognized that the skin temperature of various fingers rises from 26 degrees C to 29 degrees C began to be in sight. Effectiveness became the highest after 45 minutes and the skin temperature of various fingers was rising from 31 degrees C to 34 degrees C at this time. It continued for at least 4 hours, and this effectiveness was seen.
[0038]
Example [ ] 2 in this example, the hairline of hair was retreating very much and the permeability cream containing L-arginine hydrochloride (15%w/v) and a sodium chloride (10%w/v) was given to the 53-year-old man of the baldness who has big "baldness section" in the backside [a head] of the head. The cream was applied to the baldness field before sleeping every night, and it reached far and wide and it was rubbed in so that absorption might serve as the highest. New hair began to grow within 2 or 3 weeks. The "baldness section" which was the diameter of no less than 7cm becomes small to a field with a diameter of less than 2cm return and before to the

location where the hairline which was retreating within four months (it was retreating no less than 4cm to the skin of the baldness section before) is normal, and new hair also began to grow in this field.
[0039]
Example [ ] 3 A 54-year-old man with an impotency history is medicated with 1.5g L-arginine with the gestalt of an internal use capsule every day. with this The permeability cream which contains a bis die, L-arginine hydrochloride (15%w/v), and a sodium chloride (10%w/v) over seven days was directly applied to the phallus, thereby, the symptom of impotency was mitigated first and the test subject was able to regain the normal sexual activity. Mitigation of this symptom was maintained by continuing a therapy every day.
[0040]
Example [ ] 4 L-arginine hydrochloride (12.5%w/v), the choline chloride (10%w/v), the magnesium chloride (5% w/v), and the sodium chloride (5%w/v) were applied to the 52-year-old woman who has a chronic neck pain history for 13 years in 4 hours during one day, and were directly applied once to the neck twice after that on the 1st, and, thereby, the pain mitigated at the 1st day. Mitigation of this symptom was maintained by continuing a therapy twice on the 1st.
[0041]
Example [ ] 5 the 35-year-old man who suffers from the pain of a shoulder over three years -- L-arginine hydrochloride (12%w/v) -- A choline chloride (10%w/v), a magnesium chloride (5%w/v), The permeability cream containing a sodium chloride (5%w/v) and the capsicum oleoresin (0.5%w/v) was applied to the field which will have a direct pain twice on the 1st after that every 4 hours for one day, and, thereby, the pain mitigated within 8 hours. Mitigation of this symptom was maintained by continuing two therapies on the 1st.
[0042]
Example [ ] 6 in this example, the permeability cream containing L-arginine hydrochloride (12.5%w/v), a choline chloride (10%w/v), a sodium chloride (10%w/v), and a magnesium chloride (5%w/v) was given to the 53-year-old man without sufficient hair for the scalp who the hairline of hair is retreating very much and has big "baldness section" in the backside [a crowning] of the head. This cream was applied to the baldness field before sleeping every night, and it reached far and wide and it was rubbed in so that absorption might serve as the highest. New hair grew within 2 or 3 weeks. Return and the "baldness section" in which the diameter was 7cm or more before became small to the field with a diameter of less than 2cm to the location where the hairline which was retreating within four months (it was retreating no less than 4cm of the baldness section of the skin before) is normal, and new hair grew in the field with a diameter [the] of 2cm.
[0043]
Example [ ] 7 the permeability cream containing L-arginine hydrochloride (12.5%w/v), a choline chloride (10%w/v), a sodium chloride (10%w/v), and a magnesium chloride (5%w/v) was directly applied twice to the 54-year-old man with an impotency history over seven days at the phallus on the 1st, thereby, the symptom of impotency was able to mitigate and the test subject was able to regain the normal sexual activity. Mitigation of this symptom was maintained by continuing a therapy every day.
[0044]
Example [ ] 8 a 62-year-old man with an impotency history -- L-arginine hydrochloride (12.5%w/v) -- The phallus which is in 60 quotas from from at a male relaxed state while [30 minutes] an erection condition is expected the condom containing the moisture based on the permeability cream containing a choline chloride (10%w/v), a sodium chloride (5%w/v), and a magnesium chloride (5%w/v) is equipped. This result, An erection condition came to be acquired when a sexual act is desired. The erection condition could be attained easily and the normal sexual activity was performed.
[0045]
Example [ ] 9 the above containing the medication size enlargement object of the permeability cream which contains L-arginine hydrochloride (12.5%w/v), a choline chloride (10%w/v), a magnesium chloride (5%w/v), and a sodium chloride (5%w/v) in this example in Homo sapiens (52-year-old woman) with the very low temperature of a finger -- warming -- the cream was given. The skin temperature of the finger on the left of a test subject was 21 degrees C to 24 degrees C. warming -- the cream was applied by rubbing into the skin. 1 hour of the beginning was measured for the skin temperature of each finger every 15 minutes. warming -- when the first 15 minutes after spreading of a cream pass, the remarkable effectiveness that the skin temperature of various fingers rises from 26 degrees C to 29 degrees C came to show up. Effectiveness became the highest after 45 minutes and the skin temperature of various fingers reached even 34 degrees C from 31 degrees C at this time. This effectiveness was continued for at least 4 hours.

[0046]
As the example showed, this invention offers the approach for prescribing the released goods of the nitrogen oxide in a medication excipient for the patient, and if this medication excipient is applied to an organization with being low temperature and hurting [much], by using one of the devices of the body itself, it will raise the temperature of the skin and will generate heat. This effectiveness is attained by giving the biochemical substrate by which the matter for adjustment and nitrogen oxide are generated from it to a partial part. Nitrogen oxide makes a local blood flow increase, and, thereby, temperature rises.
[0047]
Furthermore, this invention offers the approach for prescribing the nitrogen oxide released goods in a medication excipient for the patient, and when this medication excipient is applied to Homo sapiens with the symptom of impotency, it is made for its impotency to cure by using the device of the body itself. This effectiveness is attained by giving the biochemical substrate by which the matter for adjustment and nitrogen oxide are generated from it to a partial part.
[0048]
Furthermore, this invention offers the approach for prescribing the nitrogen oxide released goods in a medication excipient for the patient, and if this medication excipient is applied to the scalp which has the baldness section, it will cause hair fostering by using one of the devices of the body itself. This effectiveness is attained by giving the biochemical substrate by which the matter for adjustment and nitrogen oxide are generated from it to a partial part. Nitrogen oxide makes a local blood flow increase, and, thereby, hair fostering of it is attained.
[0049]
Furthermore, this invention offers the approach for prescribing the nitrogen oxide released goods in a medication excipient for the patient, and if this medication excipient is applied to a membrum-inferius gangrene, it will recover by using the device of the body itself. Nitrogen oxide makes a local blood flow increase, and, thereby, the cell and matter of the body itself required for recovery come to arrive at the part of a gangrene.
[0050]
Furthermore, this invention offers the approach for prescribing the nitrogen oxide released goods in a medication excipient for the patient, and if this medication excipient is applied to Homo sapiens with a pain, a pain will mitigate or cancel it by using the function of the body itself. This effectiveness is attained by giving the biochemical substrate by which the matter for adjustment and L-arginine are generated from it to a partial part, and its level of the natural kyotorphin for painkilling improves by this, and/or it gains in the effect of a natural endorphin. Furthermore, in this invention, if L-arginine is used in relation to the vesicant or the capsicum oleoresin, consumption of the matter P from the further device of painkilling and feeling fiber will be activated.
[0051]
Although the above-mentioned description includes many details, these should be understood as what does not restrict the range of invention but only illustrates some among the current desirable examples of this invention. Other various examples and deformation are possible within the limits of this. Therefore, the range of invention is not by the above-mentioned example, and should be determined by only claims and those legal equal objects shown above.

[Translation done.]

* NOTICES *

TECHNICAL FIELD

[Field of the Invention]
Generally, this invention relates to the medication excipient for which a medicine is prescribed by either the topical application method containing the matter containing an arginine and L-arginine, or the administering method, although limitation is not carried out. The purpose of this medication excipient introduces an arginine or L-arginine into the organization of Homo sapiens or the mammals. Recovery of painkilling and the membrum-inferius gangrene from which warming of a low-temperature organization, hair fostering by the scalp, diabetes mellitus, or bedridden become a cause or it got cold, It is the purpose to bring about the useful effectiveness of mitigation of impotency and to bring about useful effectiveness by recovering a natural function based on improving the amount of supply of still more nearly local blood.
[0002]

[Translation done.]

PRIOR ART

[Description of the Prior Art]
Generalized [many] and a local policy are in the policy for improving a local blood flow. Since various inconvenient problems arise by having a bad influence on a local blood flow, much useful effectiveness is acquired by improving a local blood flow. The gangrene of the cold of a hand and a guide peg, the impotency which serves as a certain symptom and appears, the baldness, and a foot is in these problems.
[0003]
The fundamental cause of the cold of the organization of a hand, a finger, a guide peg, and a tiptoe and the cold of other organizations is in the blood flow to an organization being inadequate. If the blood flow to a thin blood vessel and a very thin blood vessel is made to increase especially by making a blood vessel ease, it is proposed that a low-temperature organization is warmed. However, many of attempts of warming by use of the active substance to which a blood vessel is made to extend and a blood flow is made to increase are finished with the bad result.
[0004]
The cold of a hand or a guide peg is treated for some time by wearing the Sox or the glove mechanically heated depending on the warm Sox or a warm glove, and the case. The possible solution has been acquired also by use of an insertion of the hot pack and glove which generate heat by the chemical reaction, or shoes. Another cure is spreading of a certain kind of liniments which are stimulants. There are matter drawn from the red pepper, vesicant (capsicum), and capsicum oleoresin which is the extractives in these liniments. Recently, the topical application cream containing nitroglycerin is used more. However, since nitroglycerin is a heart operation nature drug, if it is used, we will be anxious about the effect on the heart. Although all these policies succeed on a certain level, the property is temporary to the degree of pole.
[0005]
Furthermore, when the blood flow to a phallus is inadequate, becoming the main causes of the male impotentia erigendi (impotency) is recognized. By the tissue culture experiment in a test tube, and various animal experiments, it is discovered that nitrogen oxide is a medium important for relaxation of the blood vessel in the cavernous organization of a phallus. Since a blood vessel can be expanded, topical application nitroglycerin is used for the therapy of impotency. However, the result of such a therapy is not decisive and it turns out that this therapy is not what is fully permitted in order that the heart may react to nitroglycerin.
[0006]
Moreover, when the blood flow of the scalp runs short, it is also recognized that the male partial baldness arises. Various results are obtained by using the topical application minoxidil as drugs for hair fostering to the male partial baldness. It is shown by by increasing the amount of blood supply to the scalp that the minoxidil acts.
[0007]
Furthermore, there are many policies to painkilling relaxation in the advanced technology. The internal use painkiller with which many of these attempts attain to even the internal use agent which are more powerful anesthetics, such as codeine, from aspirin and ibuprofen is contained. It replaces with this, and when a test subject's pain is intense, the anesthetic agent containing morphine is used. It turns out that an amino acid L-arginine is a precursor to a natural endogenous analgesic matter kyotorphin (kyotorphin). If L-arginine [being extensive (it being attached to one patient and being 30g)] is prescribed for the patient into a vein, it turns out that a convenient result is obtained by painkilling. It is thought that this therapy takes effect by raising the level of a kyotorphin. However, this therapy is impractical for using it in everyday life, and is secured only to the chronic pain of the extremeest form. It turns out that the effect of painkilling caused by b endorphin increases

with the nitrogen oxide whose biochemistry precursor is L-arginine. Application of the capsaicin which is the matter drawn from the red pepper is included in the another painkilling approach from which use of an arginine differed.

[0008]

[Summary of the Invention]

By prescribing a nitrogen oxide precursor, an arginine, and its derivative with either a topical application method, the administering methods or those combination, by emitting nitrogen oxide into blood behind, when a blood flow increases, according to this invention, it is discovered that various useful effectiveness is born. In such useful effectiveness, or it got cold, warming of a low-temperature organization, erection of a phallus, recovery of a hair growth function, and recovery of the gangrene of a foot are included. Furthermore, when strengthened by the capsicum oleoresin which is capsaicin, the vesicant, or its extract, the arginine for which a medicine is prescribed by the topical application method according to this invention can ease a pain, if a bodily specific field is medicated.

[0009]

In one important example of this invention, if it applies to the selected field which has a low-temperature organization or it got cold in either of the approaches which combined a topical application method, the administering method, or them with the sufficient sodium chloride or other salts of concentration in order to produce a hostile biophysical environment for the medication excipient which contains an arginine or an arginine derivative by sufficient concentration in order to acquire desired effectiveness, an organization will be warmed behind. Warming of an organization is caused when the blood flow to a therapy field increases. this warming -- effectiveness can be extended and may be maintained from 2 hours as long as 18 hours the case of the very low temperature Homo sapiens of an organization (22 degrees C) -- this warming -- 10 degrees C or more of effectiveness are seen.

[0010]

By applying to a phallus with either of the approaches which combined a topical application method, the administering method, or them with the sufficient sodium chloride or other salts of concentration so that a hostile biophysical environment might be brought about for the medication excipient which contains an arginine or an arginine derivative by concentration sufficient in the another example of this invention to induce desired effectiveness, a local blood flow is improved and the problem of impotency is conquered to coincidence.

[0011]

In the further example of this invention, it applies to the field which was bald as for the scalp every night with either of the approaches which combined a topical application method, the administering method, or them with the sufficient sodium chloride or other salts of concentration so that desired effectiveness may be induced, and a hostile biophysical environment may be induced for the medication excipient which contains an arginine or an arginine derivative by sufficient concentration, and training of new hair is promoted.

[0012]

In the further example of this invention, it applies to the gangrene of front faces, such as a membrum-inferius gangrene, with either of the approaches which combined a topical application method, the administering method, or them with the sufficient sodium chloride or the salts of concentration so that desired effectiveness may be induced, and a hostile biophysical environment may be induced for the medication excipient which contains an arginine or an arginine derivative by sufficient concentration, and recovery is promoted by making the blood flow of a surrounding field increase.

[0013]

In the another example by this invention, with the sufficient capsaicin or the sufficient capsicum oleoresin of concentration, it applies to a field with a pain directly, and a pain is eased with either a topical application method, the administering methods or those combination so that a hostile biophysical environment may be brought about for the medication excipient which contains an arginine or an arginine derivative by sufficient concentration so that desired effectiveness may be induced and the sodium chloride of sufficient concentration or other salts, and desired effectiveness may be induced.

[0014]

[Objects of the Invention]

Therefore, the main purposes of this invention are preventing increasing the blood flow to the field chosen among the bodies by using nitrogen oxide released goods, and the organization of the mammals or Homo sapiens becoming low temperature before going into the situation which causes the cold of hands and guide pegs, such

as skiing or other winter field activities.
[0015]
Another purpose of this invention is offering the means for increasing the blood flow to a phallus and conquering the problem of impotency by using nitrogen oxide released goods.
[0016]
Still more nearly another purpose of this invention is promoting hair fostering of the part which was made to increase a local blood flow and was bald among human scalp by using nitrogen oxide released goods.
[0017]
Still more nearly another purpose of this invention is making a local blood flow increase and causing recovery of the external gangrene of a foot by using nitrogen oxide released goods.
[0018]
Still more nearly another purpose of this invention is making a local blood flow increase and easing a pain by using nitrogen oxide released goods.
[0019]
[Detailed explanation of a desirable example]
Although stated first, this invention should be understood on the overall aspect of affairs of the largest range by the following more detailed explanation. This invention is an arginine for producing useful effectiveness, or the medication approach of the derivative by emitting nitrogen oxide in one example. When the arginine other than an arginine contains the drugs with which the support or the excipient of an arginine separates from support, and it is made for this invention to go into an organization, it is based on discovery of enabling emission of an arginine.
[0020]
Internal-use medication excipient One of the desirable examples of this invention includes prescribing for the patient ion salts of a certain concentration, such as an internal-use medication excipient chosen from the group who consists of the internal use medication capsule, tablet, or liquid with which only the amount of 200 to 500mg contains one of an arginine or the derivative of its, and a sodium chloride of sufficient amount to bring about the ion environment which an arginine moves to a surrounding field from an excipient.
[0021]
When another purpose of this invention is applied to a baldness field over several months every night, it is that hair fostering in the baldness section of the human scalp is promoted. However, substantial hair fostering could be attained over the field where the scalp is large, became clear in 2 or 3 weeks, and became remarkable in several months.
[0022]
Topical application medication excipient One example of this invention contains a topical application medication excipient with the very sufficient absorption property to the skin. This topical application medication excipient contains L-arginine hydrochloride (12.5%w/v), a choline chloride (10%w/v), a sodium chloride (5%w/v), and a magnesium chloride (5%w/v). As what is used here, altogether, the concentration expression with which it is expressed by "%w/v" means weight % to the whole pharmaceutical preparation product, for example regardless of gestalten, such as a cream, a tablet, and a liquid, unless it writes clearly.
[0023]
The component of a basic cream is what is usually seen by the hand cream. ****, For example, water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.5%w/v-12%w/v), squalene (0.2%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5% w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and a magnesium chloride (25% [0.25% to] w/v) are contained.
[0024]
L-arginine hydrochloride offers the precursor to the molecule of nitrogen oxide NOx. Nitrogen oxide is matter which loosens a blood vessel in order to make a blood flow increase. The compound of L-arginine base, for example, the concentration of L-arginine hydrochloride, is 25%w/v from about 0.25%w/v preferably.
[0025]

A choline chloride, a sodium chloride, and a magnesium chloride are the examples of un-limiting-as salts which bring the environment of very high ionic strength to the molecule L-arginine charged in altitude. This high ionic strength environment is an example of the hostile biophysical environment for L-arginine. That is, the ionic strength charged in the altitude given to L-arginine support by salts is an environment inconvenient for L-arginine charged in altitude which is made to move L-arginine out of support, and a human organization etc. makes it easy to move to the convenient environment where it is not charged so much, or is promoted. Ionic strength is preferably higher than the twice of the physiological ionic strength of blood.

[0026]

A cream achieves the operation which promotes recovery of external gangrenes, such as a gangrene looked at by the foot of the Homo sapiens who suffers from serious diabetes mellitus in many cases. If it applies twice over the period for two weeks on the 1st, the substantial recovery effectiveness will be seen, and by the case where they are many, it recovers completely in the period within this period slightly longer than it (from three weeks to four weeks).

[0027]

Therefore, nitrogen oxide released goods, a choline chloride, a sodium chloride, and/or a magnesium chloride have the useful effectiveness of making the man who suffers from recovery of gangrenes, such as hair fostering and a membrum-inferius gangrene, or an erection malfunction recover a normal erection function. In another, important example of this invention, an excipient contains the vesicant (0.025%w/v) or the capsicum oleoresin (0.5%w/v) further including an above-mentioned topical application medication excipient. The purpose of the vesicant or the capsicum oleoresin is exhausting the feeling fiber of matter P (SP). Creams are drugs applied to the organization of Homo sapiens or the mammals, and help relaxation of a pain.

[0028]

A therapy includes applying a cream to a field with a pain directly. When this was performed for during [every] per hour over 12 to 16 hours time amount and this was performed twice after that on the 1st, the pain eased substantially.

[0029]

Use of the internal use medication excipient relevant to use of a topical application medication excipient Another example by this invention is use of the above-mentioned internal use medication excipient relevant to use of an above-mentioned topical application medication excipient. If it is used combining both these medication excipients, either of the above-mentioned useful effectiveness will be acquired effectively.

[0030]

For example, if the therapy by administering orally the nitrogen oxide released goods used in relation to the topical application medication excipient containing nitrogen oxide released goods is performed over the period on the 7th day to the 10th every day and it carries out also after that every day, the problem of the impotency looked at by many males will mitigate substantially.

[0031]

Other activity ingredients Although L-arginine hydrochloride is an activator desirable although it is used as nitrogen oxide released goods, there are some which make the precursor or donator of nitrogen oxide and can be used also into other drugs. L-arginine hydrochloride does not have toxicity, and since fusibility is a high natural compound with a cheap price, specifically, it is desirable. The alkyl (ethyl, methyl, propyl, isopropyl, butyl, isobutyl, t-butyl) ester of D, L-arginine, L-arginine, and L-arginine and its salts are in other precursors which may be used. A hydrochloride, a GURUTA mart, butyrate, and glycolate are contained in pharmacologically permissible salts.

[0032]

When an alternative-activator is used, it is good to replace it with L-arginine of the pharmaceutical preparation only used like the case of medication pharmaceutical preparation and L-arginine pharmaceutical preparation, and the pharmaceutical preparation used like the case of L-arginine pharmaceutical preparation. A cream may contain the vesicant or capsicum oleoresin other than L-arginine.

[0033]

Other means for absorbing Various support is possible in order to absorb. One policy for making the molecule charged in altitude, such as L-arginine, absorb during an organization is producing a biophysical hostile environment to a medication excipient so that L-arginine may be in a condition with more desirable going into an organization. Other policies include carrying out packaging of the L-arginine so that L-arginine may be carried during an organization and/or the charge may be made into neutrality by derivation or formation of neutral salt.

Although limitation is not carried out, as an example of a biophysical hostile environment, high ionic strength, quantity or low pH, and/or a high hydrophobic environment are mentioned. As an example of the packaging which may be carried by the organization, other components of the liposome of a collagen or an emulsion, a collagen peptide, the skin, or basement membrane are mentioned. As an example of charge-neutrality-izing, there are the salt and arginine GURUTA mart which are neutrality electronically. The arginine salts which can permit others were described previously.

[0034]

Drugs are added by suitable pharmaceutical preparation when producing a biophysical environment hostile to an activator. When producing the ion environment of high ionic strength, although not carried out, salts, such as a sodium chloride, potassium chloride, choline chloride, and a lithium chloride, are independent, or it is combined, and is added by high concentration, and limitation attains ionic strength with the physiological reinforcement of blood higher than twice. Thus, the molecule charged in other altitude, such as the electrified poly lysine of amino acid, the poly glutamine, the poly asparagine, or a copolymer, may be used in order to produce a hostile biophysical environment.

[0035]

or [that, as for a hostile biophysical environment, only a few contains water by replacing with this] -- or it can obtain by giving L-arginine charged in altitude to an environment with much hydrophobic oil, such as a cream of the oil base which is not included at all. Desirable hydrophobicity or a desirable low (rho) is higher than the hydrophobic physiological twice of blood. Absorption is further assisted by using it combining the component or molecule including the heterocycle in which it adhered to use of a hostile biophysical environment, penetrating agents, such as capsicum oleoresin, or a hydrocarbon chain.

[0036]

If it is the hostile environment where quantity or the low pH environment was chosen, desirable pH range is 11pH from about 3 pH.

[0037]

clinical application Example 1 the above which contains the medication size enlargement object of a permeability cream, L-arginine hydrochloride (15%w/v), and a sodium chloride (10%w/v) in Homo sapiens with a very cold finger in this example -- warming -- the cream was given. The skin temperature of the finger on the left of a test subject was 21 degrees C to 24 degrees C. warming -- the cream was applied by rubbing into the skin. 1 hour of the beginning was measured for the skin temperature of each finger every 15 minutes. warming -- after prescribing the cream for the patient, when 15 minutes of the beginning have passed, the effectiveness which can be recognized that the skin temperature of various fingers rises from 26 degrees C to 29 degrees C began to be in sight. Effectiveness became the highest after 45 minutes and the skin temperature of various fingers was rising from 31 degrees C to 34 degrees C at this time. It continued for at least 4 hours, and this effectiveness was seen.

[0038]

Example [ ] 2 in this example, the hairline of hair was retreating very much and the permeability cream containing L-arginine hydrochloride (15%w/v) and a sodium chloride (10%w/v) was given to the 53-year-old man of the baldness who has big "baldness section" in the backside [a head] of the head. The cream was applied to the baldness field before sleeping every night, and it reached far and wide and it was rubbed in so that absorption might serve as the highest. New hair began to grow within 2 or 3 weeks. The "baldness section" which was the diameter of no less than 7cm becomes small to a field with a diameter of less than 2cm return and before to the location where the hairline which was retreating within four months (it was retreating no less than 4cm to the skin of the baldness section before) is normal, and new hair also began to grow in this field.

[0039]

Example [ ] 3 A 54-year-old man with an impotency history is medicated with 1.5g L-arginine with the gestalt of an internal use capsule every day. with this The permeability cream which contains a bis die, L-arginine hydrochloride (15%w/v), and a sodium chloride (10%w/v) over seven days was directly applied to the phallus, thereby, the symptom of impotency was mitigated first and the test subject was able to regain the normal sexual activity. Mitigation of this symptom was maintained by continuing a therapy every day.

[0040]

Example [ ] 4 L-arginine hydrochloride (12.5%w/v), the choline chloride (10%w/v), the magnesium chloride (5% w/v), and the sodium chloride (5%w/v) were applied to the 52-year-old woman who has a chronic neck pain history for 13 years in 4 hours during one day, and were directly applied once to the neck twice after that on the

1st, and, thereby, the pain mitigated at the 1st day. Mitigation of this symptom was maintained by continuing a therapy twice on the 1st.

[0041]

Example [ ] 5 the 35-year-old man who suffers from the pain of a shoulder over three years -- L-arginine hydrochloride (12%w/v) -- A choline chloride (10%w/v), a magnesium chloride (5%w/v), The permeability cream containing a sodium chloride (5%w/v) and the capsicum oleoresin (0.5%w/v) was applied to the field which will have a direct pain twice on the 1st after that every 4 hours for one day, and, thereby, the pain mitigated within 8 hours. Mitigation of this symptom was maintained by continuing two therapies on the 1st.

[0042]

Example [ ] 6 in this example, the permeability cream containing L-arginine hydrochloride (12.5%w/v), a choline chloride (10%w/v), a sodium chloride (10%w/v), and a magnesium chloride (5%w/v) was given to the 53-year-old man without sufficient hair for the scalp who the hairline of hair is retreating very much and has big "baldness section" in the backside [a crowning] of the head. This cream was applied to the baldness field before sleeping every night, and it reached far and wide and it was rubbed in so that absorption might serve as the highest. New hair grew within 2 or 3 weeks. Return and the "baldness section" in which the diameter was 7cm or more before became small to the field with a diameter of less than 2cm to the location where the hairline which was retreating within four months (it was retreating no less than 4cm of the baldness section of the skin before) is normal, and new hair grew in the field with a diameter [the] of 2cm.

[0043]

Example [ ] 7 the permeability cream containing L-arginine hydrochloride (12.5%w/v), a choline chloride (10%w/v), a sodium chloride (10%w/v), and a magnesium chloride (5%w/v) was directly applied twice to the 54-year-old man with an impotency history over seven days at the phallus on the 1st, thereby, the symptom of impotency was able to mitigate and the test subject was able to regain the normal sexual activity. Mitigation of this symptom was maintained by continuing a therapy every day.

[0044]

Example [ ] 8 a 62-year-old man with an impotency history -- L-arginine hydrochloride (12.5%w/v) -- The phallus which is in 60 quotas from from at a male relaxed state while [30 minutes] an erection condition is expected the condom containing the moisture based on the permeability cream containing a choline chloride (10%w/v), a sodium chloride (5%w/v), and a magnesium chloride (5%w/v) is equipped. This result, An erection condition came to be acquired when a sexual act is desired. The erection condition could be attained easily and the normal sexual activity was performed.

[0045]

Example [ ] 9 the above containing the medication size enlargement object of the permeability cream which contains L-arginine hydrochloride (12.5%w/v), a choline chloride (10%w/v), a magnesium chloride (5%w/v), and a sodium chloride (5%w/v) in this example in Homo sapiens (52-year-old woman) with the very low temperature of a finger -- warming -- the cream was given. The skin temperature of the finger on the left of a test subject was 21 degrees C to 24 degrees C. warming -- the cream was applied by rubbing into the skin. 1 hour of the beginning was measured for the skin temperature of each finger every 15 minutes. warming -- when the first 15 minutes after spreading of a cream pass, the remarkable effectiveness that the skin temperature of various fingers rises from 26 degrees C to 29 degrees C came to show up. Effectiveness became the highest after 45 minutes and the skin temperature of various fingers reached even 34 degrees C from 31 degrees C at this time. This effectiveness was continued for at least 4 hours.

[0046]

As the example showed, this invention offers the approach for prescribing the released goods of the nitrogen oxide in a medication excipient for the patient, and if this medication excipient is applied to an organization with being low temperature and hurting [much], by using one of the devices of the body itself, it will raise the temperature of the skin and will generate heat. This effectiveness is attained by giving the biochemical substrate by which the matter for adjustment and nitrogen oxide are generated from it to a partial part. Nitrogen oxide makes a local blood flow increase, and, thereby, temperature rises.

[0047]

Furthermore, this invention offers the approach for prescribing the nitrogen oxide released goods in a medication excipient for the patient, and when this medication excipient is applied to Homo sapiens with the symptom of impotency, it is made for its impotency to cure by using the device of the body itself. This effectiveness is attained by giving the biochemical substrate by which the matter for adjustment and nitrogen oxide are

generated from it to a partial part.
[0048]
Furthermore, this invention offers the approach for prescribing the nitrogen oxide released goods in a medication excipient for the patient, and if this medication excipient is applied to the scalp which has the baldness section, it will cause hair fostering by using one of the devices of the body itself. This effectiveness is attained by giving the biochemical substrate by which the matter for adjustment and nitrogen oxide are generated from it to a partial part. Nitrogen oxide makes a local blood flow increase, and, thereby, hair fostering of it is attained.
[0049]
Furthermore, this invention offers the approach for prescribing the nitrogen oxide released goods in a medication excipient for the patient, and if this medication excipient is applied to a membrum-inferius gangrene, it will recover by using the device of the body itself. Nitrogen oxide makes a local blood flow increase, and, thereby, the cell and matter of the body itself required for recovery come to arrive at the part of a gangrene.
[0050]
Furthermore, this invention offers the approach for prescribing the nitrogen oxide released goods in a medication excipient for the patient, and if this medication excipient is applied to Homo sapiens with a pain, a pain will mitigate or cancel it by using the function of the body itself. This effectiveness is attained by giving the biochemical substrate by which the matter for adjustment and L-arginine are generated from it to a partial part, and its level of the natural kyotorphin for painkilling improves by this, and/or it gains in the effect of a natural endorphin. Furthermore, in this invention, if L-arginine is used in relation to the vesicant or the capsicum oleoresin, consumption of the matter P from the further device of painkilling and feeling fiber will be activated.
[0051]
Although the above-mentioned description includes many details, these should be understood as what does not restrict the range of invention but only illustrates some among the current desirable examples of this invention. Other various examples and deformation are possible within the limits of this. Therefore, the range of invention is not by the above-mentioned example, and should be determined by only claims and those legal equal objects shown above.

[Translation done.]

WRITTEN AMENDMENT

[Procedure revision] The decodement presentation document of the 19th article amendment of Patent Cooperation Treaty
[Filing Date] March 5, Heisei 11 (1999. 3.5)
[Procedure amendment 1]
[Document to be Amended] Specification
[Item(s) to be Amended] Claim
[Method of Amendment] Modification
[Proposed Amendment]
[Claim(s)]
[Claim 1] The nitrogen oxide released goods chosen from the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative It has the step which applies locally to said skin the matter medication excipient which is an approach for prescribing a medicine for the field to which the skin was chosen, and contains said an effective quantity of matter. Said excipient How to produce the hostile biophysical environment for said matter where said matter moves to said skin from said excipient, and said matter is made to be absorbed on said skin.
[Claim 2] The approach according to claim 1 by which the excipient chosen from the group who consists of the topical application cream containing said matter and an ion salt, a topical application liquid, a topical application lotion, and topical application ointment is applied to said skin.
[Claim 3] The approach according to claim 1 said excipient is a hydrophobic medication excipient containing said matter and at least one liposome.
[Claim 4] The approach according to claim 3 by which the excipient containing said matter and said at least one liposome is applied to said skin so that said at least one liposome may move to said skin from said excipient.
[Claim 5] The approach according to claim 1 said excipient has pH of about 3 pH to 11pH.
[Claim 6] A medication excipient Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.5% w/v-12%w/v), squalene (0.2%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach containing L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and a magnesium chloride (25%[0.25% to] w/v) according to claim 1.
[Claim 7] The approach according to claim 6 said medication excipient contains a choline chloride (0.25%w/v-25% w/v).
[Claim 8] The approach according to claim 6 said medication excipient includes L-arginine GURUTA mart (0.25% w/v-25%w/v).
[Claim 9] Said excipient is the approach of producing hostile living thing physical environment that said matter moves to said phallus from said excipient, and said matter is made to be absorbed, including the step prescribed by applying locally to a phallus the medication excipient in which only an effective amount contains said matter for the nitrogen chloride released goods which are the therapy approaches of male impotency and were chosen from the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative.
[Claim 10] The approach according to claim 9 chosen from the group which said excipient becomes from the topical application cream containing said matter, a topical application liquid, a topical application lotion, and

topical application ointment.
[Claim 11] The approach according to claim 9 said medication excipient is a hydrophobic medication excipient containing said matter and at least one liposome.
[Claim 12] The approach according to claim 11 by which the excipient containing said matter and liposome is applied to said phallus so that said at least one liposome may move to said phallus from said excipient.
[Claim 13] Said medication excipient Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate [SE] (0.5%w/v-12%w/v), Squalene (0.2%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate [SE] (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach containing L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and a magnesium chloride (25%[0.25% to] w/v) according to claim 9.
[Claim 14] The approach according to claim 13 said medication excipient contains a choline chloride (0.25%w/v-25%w/v).
[Claim 15] The approach according to claim 13 said medication excipient contains L-arginine GURUTA mart (0.25%w/v-25%w/v).
[Claim 16] The approach according to claim 9 which said medication excipient contains to the condom worn by said phallus.
[Claim 17] The nitrogen oxide released goods which are the hair-fostering promotion approaches and were chosen from the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative The step which prescribes the medication excipient in which only an effective amount contains said matter by applying to the field to which the skin which hair fostering is expected was chosen locally is included. By said medication excipient The approach of producing a hostile biophysical environment that said matter moves to the field to which said skin was chosen from said excipient, and said matter is made to be absorbed there.
[Claim 18] The approach according to claim 17 chosen from the group which said excipient becomes from the topical application cream containing said matter, a topical application liquid, a topical application lotion, and topical application ointment.
[Claim 19] The approach according to claim 17 said medication excipient is a hydrophobic medication excipient containing said matter and at least one liposome.
[Claim 20] The approach according to claim 19 by which the excipient containing said matter and said at least one liposome is applied to the field to which said skin was chosen for said liposome from said excipient so that it may move to said skin expected hair fostering.
[Claim 21] Said medication excipient Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate [SE] (0.5%w/v-12%w/v), Squalene (0.2%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate [SE] (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach containing L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and a magnesium chloride (25%[0.25% to] w/v) according to claim 17.
[Claim 22] The approach according to claim 21 by which said medication excipient containing a choline chloride (0.25%w/v-25%w/v) is applied to the field to which the skin expected hair fostering was chosen.
[Claim 23] The approach according to claim 21 by which said medication excipient which includes L-arginine GURUTA mart (0.25%w/v-25%w/v) further is applied to the field to which the skin expected hair fostering was chosen.
[Claim 24] The approach according to claim 17 by which the endermic patch which contains said matter and an ion salt by concentration sufficient so that said matter may move to the field to which the skin was chosen from the patch to produce an ionic strength environment is applied to the location where hair fostering is desired.
[Claim 25] how to be an approach for promote hair fostering by prescribe the nitrogen oxide released goods

chose from the member of the group who consist of L – arginine , L – arginine salts , and an L – arginine derivative , and contain the step which administer orally to the body the excipient containing an effective quantity of said matter , and the sodium chloride of concentration sufficient in order to produce the ion environment where a surrounding organization be make for said matter to be absorb .
[Claim 26] The approach according to claim 25 which is chosen from the group which said excipient becomes from the internal use capsule, internal use tablet, and internal use liquid containing said matter, and is administered orally to said body.
[Claim 27] The approach according to claim 25 administered orally in relation to the step which carries out topical application of the medication excipient containing the ion salt of concentration sufficient in order that the internal use medication excipient containing said matter may produce the ionic strength environment which said matter and said matter move to the field to which the skin expected hair fostering was chosen from said topical application medication excipient.
[Claim 28] The internal use medication excipient containing L–arginine (it will be attached on the 1st and is 0.5g to 30g) Water (20%w/v–80%w/v), mineral oil (3%w/v–18%w/v), Glycerol stearate [SE] (0.5%w/v–12%w/v), Squalene (0.2%w/v–12%w/v), cetyl alcohol (0.1%w/v–11%w/v), Propylene glycol stearate [SE] (0.1%w/v–11%w/v), Wheat germ oil (0.1%w/v–6%w/v), glycerol stearate (0.1%w/v–6%w/v), The isopropyl myristate (0.1%w/v–6%w/v), stearyl stearate (0.1%w/v–6%w/v), Polysorbate 60 (0.1%w/v–5%w/v), propylene glycol (0.05%w/v–5%w/v), TOKOFE Norian acetate (0.05%w/v–5%w/v), a collagen (0.05%w/v–5%w/v), Sorbitan stearate (0.05%w/v–5%w/v), vitamin A, and D (0.02%w/v–4%w/v), Triethanolamine (0.01%w/v–4%w/v), the methylparaben (0.01%w/v–4%w/v), Aloe extractives (0.01%w/v–4%w/v), an imidazolidinyl urea (0.01%w/v–4%w/v), Propylparaben (0.01%w/v–4%w/v), bha (0.01%w/v–4%w/v), The approach according to claim 27 administered orally in relation to L–arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and the topical application medication excipient containing a magnesium chloride (25%[0.25% to] w/v).
[Claim 29] the approach of be an approach for make a local blood flow increase by prescribe the nitrogen oxide released goods chose from the member of the group who consist of an L – arginine , L – arginine salts , and an L – arginine derivative , and contain the step which administer orally to the body the excipient containing an effective quantity of said matter , and the sodium chloride of concentration sufficient in order to produce the ion environment where a surrounding organization be make to absorb said matter
[Claim 30] The approach according to claim 29 chosen from the group which said internal use medication excipient becomes from the internal use capsule containing said matter by which it is administered orally to the body, an internal use tablet, and an internal use liquid.
[Claim 31] The approach according to claim 29 by which the internal use medication excipient which will be attached on the 1st and contains L–arginine in 0.5 to 30g is administered orally.
[Claim 32] It is an approach for making a local blood flow increase by prescribing the nitrogen oxide released goods chosen from the member of the group who consists of L–arginine, L–arginine salts, and an L–arginine derivative. It relates to the step which applies locally the medication excipient containing the ion salt of concentration sufficient in order to produce the environment which said an effective quantity of matter and said matter move to the field to which the skin by which said matter is absorbed was chosen from said excipient. Said an effective quantity of matter, The approach containing the step which administers orally to the body the excipient containing the sodium chloride of sufficient concentration to produce the ion environment where a surrounding organization is made for said matter to be absorbed.
[Claim 33] The approach according to claim 32 chosen from the group which said topical application medication excipient becomes from a topical application cream, a topical application liquid, a topical application lotion, and topical application ointment.
[Claim 34] The approach according to claim 32 by which said matter and the topical application hydrophobic medication excipient containing said ion salt are applied to said skin.
[Claim 35] The approach according to claim 32 applied to said skin so that said liposome may move to said skin from said excipient and the topical application medication excipient containing the ion salt of sufficient concentration to produce an ionic strength environment in said matter and liposome may be absorbed there.
[Claim 36] The approach according to claim 32 by which the endermic patch containing said matter and said ion salt is applied to said skin.
[Claim 37] The internal use medication excipient containing L–arginine (it will be attached on the 1st and is 0.5g to 30g) Water (20%w/v–80%w/v), mineral oil (3%w/v–18%w/v), Glycerol stearate [SE] (0.5%w/v–12%w/v), Squalene (0.2%w/v–12%w/v), cetyl alcohol (0.1%w/v–11%w/v), Propylene glycol stearate [SE] (0.1%w/v–11%w/v),

Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach according to claim 32 administered orally in relation to L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and the topical application medication excipient containing a magnesium chloride (25%[0.25% to] w/v).

[Claim 38] The approach according to claim 37 by which the topical application medication excipient which contains a choline chloride (0.25%w/v-25%w/v) further is applied to said skin.

[Claim 39] The approach according to claim 37 by which the topical application medication excipient which carries out L-arginine GURUTA mart (0.25%w/v-25%w/v) content is applied to said skin.

[Claim 40] how to contain [to be an approach for warm a low-temperature organization , or it got cold by prescribe the nitrogen oxide released goods chose from the member of the group who consist of L-arginine , L-arginine salts , and an L-arginine derivative , and] the step which administer orally the excipient containing an effective quantity of said matter , and the sodium chloride of sufficient concentration to produce the ion environment where a surrounding organization be make said matter to be absorb .

[Claim 41] The approach according to claim 40 chosen from the group which said internal use medication excipient becomes from the internal use capsule, internal use tablet, and internal use liquid containing said matter administered orally to the body.

[Claim 42] The approach according to claim 40 by which said matter and said matter move to said selected field from said excipient, and the internal use medication excipient containing said matter is administered orally in relation to the step which applies locally the medication excipient containing the ion salt of sufficient concentration to produce the environment which is made to be absorbed there.

[Claim 43] The approach according to claim 40 chosen from the group which said topical application medication excipient becomes from a topical application cream, a topical application liquid, a topical application lotion, and topical application ointment.

[Claim 44] The approach according to claim 40 by which the topical application hydrophobic medication excipient containing said matter and said ion salt is applied to the skin.

[Claim 45] The approach according to claim 40 by which the topical application medication excipient which contains said matter and said ion salt in liposome is applied to the skin.

[Claim 46] The approach according to claim 40 applied to said skin so that said liposome may move [the topical application medication excipient containing the ion salt of sufficient concentration to produce an ionic strength environment in said matter and said liposome] to the skin from said excipient and said matter may be absorbed there.

[Claim 47] The approach according to claim 40 by which the endermic patch containing said matter and said ion salt is applied to said skin.

[Claim 48] The internal use medication excipient containing L-arginine (it will be attached on the 1st and is 0.5g to 30g) Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate [SE] (0.5%w/v-12%w/v), Squalene (0.2%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate [SE] (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach according to claim 40 administered orally in relation to L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and the topical application medication excipient containing a magnesium chloride (25%[0.25% to] w/v).

[Claim 49] The approach according to claim 48 by which said medication excipient which contains a choline chloride (0.25%w/v-25%w/v) further is applied to the skin.

[Claim 50] The approach according to claim 49 by which said medication excipient containing L-arginine GURUTA mart (0.25%w/v-25%w/v) is applied to said skin.

[Claim 51] an organization including prescribe the nitrogen oxide released goods chose from the member of the group who consist of L-arginine , L-arginine salts , and an L-arginine derivative -- warming -- the approach

containing the step which apply locally to said skin the excipient containing the ion salt of sufficient concentration to produce the ion environment where it be an approach , and an effective quantity of said matter and said matter move from said excipient to said skin , and said matter be made be absorb there .
[Claim 52] The approach according to claim 51 by which the topical application medication excipient chosen from the group who consists of the topical application cream containing said matter and said ion salt, a topical application liquid, a topical application lotion, and topical application ointment is applied to said skin.
[Claim 53] The approach according to claim 51 by which the hydrophobic medication excipient containing said matter and said ion salt is applied to said skin.
[Claim 54] The approach according to claim 51 by which the excipient which contains said matter and said ion salt in liposome is applied to said skin.
[Claim 55] The approach according to claim 51 by which the excipient which contains said matter and an ion salt in liposome, and contains the ion salt of sufficient concentration to produce an ionic strength environment in said liposome further is applied to said skin so that said liposome may move to said skin from said excipient.
[Claim 56] The approach according to claim 51 by which the endermic patch containing said matter and an ion salt is applied to said skin.
[Claim 57] Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.25%w/v-12%w/v), squalene (0.25%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), polysorbate 60 (0.1%w/v-5%w/v), Propylene glycol (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Vitamin E (0.02%w/v-4%w/v), triethanolamine (0.01%w/v-4%w/v), The methylparaben (0.01%w/v-4%w/v), aloe extractives (0.01%w/v-4%w/v), An imidazolidinyl urea (0.01%w/v-4%w/v), propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), L-arginine hydrochloride (25%[0.25% to] w/v), The approach according to claim 51 by which a sodium chloride (25%[0.25% to] w/v), said matter, and the medication excipient containing the agent [exhausting / P] (P depleting agent) are applied to said skin.
[Claim 58] The approach according to claim 57 by which said medication excipient which contains a choline chloride (0.25%w/v-25%w/v) further is applied to said skin.
[Claim 59] L-arginine GURUTA mart (0.25%w/v-25%w/v) -- the approach according to claim 57 by which the medication excipient included further is applied to said skin.
[Claim 60] How to be an approach for recovering an external gangrene by prescribing the nitrogen oxide released goods chosen from the member of the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative, and contain the step which administers orally to the body the excipient containing said an effective quantity of matter, and the sodium chloride of sufficient amount to produce the ion environment where said matter is made to be absorbed by the perimeter field of said gangrene and said gangrene.
[Claim 61] The approach according to claim 60 chosen from the group which said excipient becomes from the internal use capsule, internal use tablet, and internal use liquid containing said matter administered orally to said body.
[Claim 62] The approach according to claim 60 by which an internal use medication excipient is administered orally in relation to the step to which said matter and said matter apply locally the medication excipient containing the ion salt of sufficient concentration to produce the environment it is made to move to the field around said gangrene and said gangrene from said excipient.
[Claim 63] The approach according to claim 62 chosen from the group which said medication excipient becomes from a topical application cream, a topical application liquid, a topical application lotion, and topical application ointment.
[Claim 64] The approach according to claim 62 by which the topical application hydrophobic medication excipient containing said matter and said ion salt is applied to the perimeter field of said gangrene and said gangrene.
[Claim 65] The approach according to claim 62 by which the topical application medication excipient which contains said matter in liposome and contains the ion salt of sufficient concentration to produce an ionic strength environment in said liposome further is applied to the skin so that said liposome may move to the perimeter field of said gangrene and said gangrene from said excipient.
[Claim 66] The approach according to claim 62 by which the endermic patch containing said matter and an ion salt is applied to the perimeter field of said gangrene and said gangrene.
[Claim 67] The internal use medication excipient containing L-arginine (it will be attached on the 1st and is 0.5g to 30g) Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate [SE] (0.5%w/v-12%w/v), Squalene (0.2%w/v-12%w/v), cetyl alcohol (0.1%w/v-11%w/v), Propylene glycol stearate [SE] (0.1%w/v-11%w/v),

Wheat germ oil (0.1%w/v-6%w/v), glycerol stearate (0.1%w/v-6%w/v), The isopropyl myristate (0.1%w/v-6%w/v), stearyl stearate (0.1%w/v-6%w/v), Polysorbate 60 (0.1%w/v-5%w/v), propylene glycol (0.05%w/v-5%w/v), TOKOFE Norian acetate (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Triethanolamine (0.01%w/v-4%w/v), the methylparaben (0.01%w/v-4%w/v), Aloe extractives (0.01%w/v-4%w/v), an imidazolidinyl urea (0.01%w/v-4%w/v), Propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), The approach according to claim 62 administered orally in relation to L-arginine hydrochloride (25%[0.25% to] w/v), a sodium chloride (25%[0.25% to] w/v), and the topical application medication excipient containing a magnesium chloride (25%[0.25% to] w/v).

[Claim 68] The approach according to claim 67 by which the medication excipient which contains a choline chloride (0.25%w/v-25%w/v) further is applied to the perimeter field of said gangrene and said gangrene.

[Claim 69] The approach according to claim 67 by which the medication excipient containing L-arginine GURUTA mart (0.25%w/v-25%w/v) is applied to the perimeter field of said gangrene and said gangrene.

[Claim 70] Include prescribing the kyotorphin released goods chosen from the member of the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative to the skin. Are an approach for softening a pain and an effective quantity of the matter and said matter move to said skin from said excipient. Make it absorbed on said skin in relation to medication of the agent [exhausting / P] chosen from the member of the group which said matter becomes from the capsaicin and oleoresin to said skin. The approach containing the step which applies locally the excipient containing the ion of concentration sufficient in order to produce an ion environment to said skin.

[Claim 71] The approach according to claim 70 by which the topical application medication excipient chosen from the group who consists of the topical application cream containing said matter, said ion salt, and said agent [exhausting / P], a topical application liquid, a topical application lotion, and topical application ointment is applied to said skin.

[Claim 72] The approach according to claim 70 by which the hydrophobic medication excipient containing said matter, said ion salt, and said agent [exhausting / P] is applied to said skin.

[Claim 73] The approach according to claim 70 by which the excipient which contains said matter and said agent [exhausting / P] in liposome, and contains said ion salt further is applied to said skin.

[Claim 74] The approach according to claim 70 by which the excipient which contains said matter and said agent [exhausting / P] in liposome, and contains the ion salt of sufficient concentration to produce an ionic strength environment in said liposome further is applied to said skin so that said liposome may move to said skin from said excipient.

[Claim 75] An approach given in claims 70-74 which said medication excipient, said matter, and said agent [exhausting / P] contain to the condom worn by the phallus.

[Claim 76] The approach according to claim 70 by which the endermic patch containing said matter, said ion salt, and said agent [exhausting / P] is applied to said skin.

[Claim 77] Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.25%w/v-12%w/v), squalene (0.25%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), polysorbate 60 (0.1%w/v-5%w/v), Propylene glycol (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Vitamin E (0.02% w/v-4% w/v), triethanolamine (0.01%w/v-4%w/v), The methylparaben (0.01%w/v-4%w/v), aloe extractives (0.01%w/v-4%w/v), An imidazolidinyl urea (0.01%w/v-4%w/v), propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), L-arginine hydrochloride (from 0.25%w/v to 25%w/v), And the approach according to claim 70 by which a sodium chloride (from 0.25%w/v to 25%w/v), said matter, and the medication excipient containing said agent [exhausting / P] are applied to said skin.

[Claim 78] The approach according to claim 70 said medication excipient contains capsaicin as an agent [exhausting / P] in the range of w/v 0.5% from w/v 0.005%.

[Claim 79] The approach according to claim 70 said medication excipient contains oleoresin as an agent [exhausting / P] in the range of w/v 2.5% from w/v 0.05%.

[Claim 80] It is a constituent for making a blood flow increase,

Nitrogen oxide released goods chosen from the group who consists of L-arginine, L-arginine salts, and an L-arginine derivative,

A constituent equipped with the matter medication support containing the ion salt of concentration sufficient when said constituent is applied to the skin, in order to induce the ion environment which said matter moves to said human skin from support.

[Claim 81] Said matter medication support Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.25%w/v-12%w/v), squalene (0.25%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), polysorbate 60 (0.1%w/v-5%w/v), Propylene glycol (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02% w/v-4%w/v), Vitamin E (0.02% w/v-4% w/v), triethanolamine (0.01%w/v-4%w/v), The methylparaben (0.01%w/v-4%w/v), aloe extractives (0.01%w/v-4%w/v), An imidazolidinyl urea (0.01%w/v-4%w/v), propylparaben (0.01%w/v-4%w/v), The constituent according to claim 80 which contains further bha (0.01%w/v-4%w/v), L-arginine hydrochloride (from 0.25%w/v to 25%w/v), and a sodium chloride (from 0.25%w/v to 25%w/v).
[Claim 82] The constituent according to claim 80 chosen from the group which said ion salt becomes from a choline chloride, a sodium chloride, magnesium chlorides, and those mixture.
[Claim 83] The constituent according to claim 82 with which said ion salt has ionic strength with the physiological ionic strength of blood higher than twice.
[Claim 84] The constituent according to claim 80 with which said nitrogen oxide released goods have the concentration of w/v 25% from w/v about 0.25%.
[Claim 85] L-arginine hydrochloride of about 12.5%w/v,
The choline chloride of about 10.0%w/v,
The sodium chloride of about 5%w/v,
The magnesium chloride of about 5%w/v,
The constituent containing a topical application medication excipient for making a blood flow increase.
[Claim 86] Said topical application medication excipient
Water (20%w/v-80%w/v), mineral oil (3%w/v-18%w/v), Glycerol stearate (0.25%w/v-12%w/v), squalene (0.25%w/v-12%w/v), Cetyl alcohol (0.1%w/v-11%w/v), propylene glycol stearate (0.1%w/v-11%w/v), Wheat germ oil (0.1%w/v-6%w/v), polysorbate 60 (0.1%w/v-5%w/v), Propylene glycol (0.05%w/v-5%w/v), a collagen (0.05%w/v-5%w/v), Sorbitan stearate (0.05%w/v-5%w/v), vitamin A, and D (0.02%w/v-4%w/v), Vitamin E (0.02% w/v-4% w/v), triethanolamine (0.01%w/v-4%w/v), The methylparaben (0.01%w/v-4%w/v), aloe extractives (0.01%w/v-4%w/v), An imidazolidinyl urea (0.01%w/v-4%w/v), propylparaben (0.01%w/v-4%w/v), bha (0.01%w/v-4%w/v), L-arginine hydrochloride (from 0.25%w/v to 25%w/v), and sodium chloride (from 0.25%w/v to 25%w/v) Included constituent according to claim 85.
[Claim 87] The constituent according to claim 85 with which said constituent has pH of about 3 pH to 11pH.

[Translation done.]